MARICOPA ASSOCIATION of GOVERNMENTS
302 North 1st Avenue, Suite 300 ▲ Phoenix, Arizona 85003
Phone (602) 254-6300 ▲ FAX (602) 254-6490
E-mail: mag@azmag.gov ▲ www.azmag.gov

50th Anniversary 1967–2017

May 16, 2019

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Jon Sherrill, Chandler, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Thursday, May 23, 2019 - 1:30 p.m.
MAG Office, Suite 200 - Saguaro Room
302 North 1st Avenue, Phoenix

A meeting of the MAG Air Quality Technical Advisory Committee has been scheduled for the time and place noted above. Members of the Air Quality Technical Advisory Committee may attend the meeting either in person, by videoconference or by telephone conference call. Those attending by videoconference must notify the MAG site three business days prior to the meeting. If you have any questions regarding the meeting, please contact Chair Sherrill or Lindy Bauer at 602-254-6300.

Please park in the garage underneath the building, bring your ticket, and parking will be validated. For those using transit, Valley Metro/Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the MAG Air Quality Technical Advisory Committee does not meet the quorum requirement, members who arrived at the meeting will be instructed a legal meeting cannot occur and subsequently be dismissed. Your attendance at the meeting is strongly encouraged. If you are unable to attend the meeting, please make arrangements for a proxy from your entity to represent you.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Kelly Taft at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

TENTATIVE AGENDA

COMMITTEE ACTION REQUESTED

1. Call to Order

2. Call to the Audience

   An opportunity will be provided to members of the public to address the Air Quality Technical Advisory Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Members of the public will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Air Quality Technical Advisory Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard.

   2. For information.

3. Approval of the February 21, 2019 Meeting Minutes

   3. Review and approve the February 21, 2019 meeting minutes.

4. Update on 2008 Ozone Standard Issues

   The Maricopa nonattainment area is currently classified as a Moderate Area for the 2008 ozone standard of 0.075 parts per million. In order to meet the standard by the July 20, 2018 attainment date, the region needed three years of clean data at the air quality monitors in 2015-2017. Based upon quality assured and certified 2015-2017 monitoring data, it appears that the standard has been met, pending the

   4. For information and discussion.

approval of two wildfire exceptional events by the Environmental Protection Agency (EPA).

In a February 5, 2019 letter, EPA concurred with the wildfire exceptional event documentation for July 7, 2017. Additional supporting documentation for the wildfire exceptional event on June 20, 2015 was prepared by MAG and the Arizona Department of Environmental Quality and transmitted to EPA in November and December 2018 and January 2019. An Addendum to summarize the additional documentation was prepared and submitted to EPA on March 26, 2019. In a May 7, 2019 letter, EPA concurred with the wildfire exceptional event documentation for June 20, 2015. An update will be provided. Please refer to the enclosed material.

5. <u>EPA Proposed PM-2.5 Attainment Determination for Pinal County</u>

   On April 25, 2019, the Environmental Protection Agency published a proposed rule to determine that the West Central Pinal County nonattainment area has attained the PM-2.5 particulate standard, based upon quality assured monitoring data for 2015-2017. The attainment date was December 31, 2017. Please refer to the enclosed material.

5. For information and discussion.

6. <u>Update on 2015 Ozone Standard</u>

   On November 7, 2018, the Environmental Protection Agency issued a final rule for the Implementation of the

6. For information and discussion.

2015 Ozone Standards that addresses the nonattainment area and state implementation plan requirements. The Maricopa nonattainment area was classified as a Marginal Area for the 2015 ozone standard of 0.070 parts per million, effective August 3, 2018. The attainment date for Marginal Areas is August 3, 2021. Since the attainment date is in the middle of the summer ozone season, the region will need three years of clean data at the air quality monitors in 2020 (ozone season prior to the attainment date).

A Marginal Area Plan is due to EPA by August 3, 2020. The EPA assumes that Marginal Areas will be in attainment of the standard within three years of designation without any additional control measures. Currently, the region has 93 existing control measures approved by EPA to reduce ozone. In 2018, there were 14 monitors that were not meeting the standard and seven monitors that were meeting the standard.

In coordination with the Arizona Department of Environmental Quality, MAG has been evaluating the impacts of some hypothetical measures to reduce ozone. The control measures with the greatest impacts going forward remain the federal tailpipe standards, fuel measures (e.g. Tier 3) and continued vehicle fleet turnover. An update will be provided. Please refer to the enclosed material.

7. Update on Air Quality Monitoring Data An update on the air quality monitoring data for the MAG region will be provided. The update will include carbon monoxide, ozone, and PM-10.	7. For information and discussion.
8. Call for Future Agenda Items The next meeting of the Committee has been tentatively scheduled for **Thursday, June 27, 2019 at 1:30 p.m.** The Chair will invite the Committee members to suggest future agenda items.	8. For information and discussion.
9. Adjournment	

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
AIR QUALITY TECHNICAL ADVISORY COMMITTEE MEETING

Thursday, February 21, 2019
MAG Office
Phoenix, Arizona

MEMBERS ATTENDING

Jon Sherrill, Chandler, Chair
Monica Rabb for Megan Sheldon, Glendale, Vice Chair
Hether Krause, Avondale
Robert van den Akker, Buckeye
Derek Castaneda, El Mirage
* Benjamin Bitter, Florence
* Hondo Judd, Gilbert
\# Mario Saldamando, Goodyear
* Kazi Haque, Maricopa
* Aaron Chavez, Mesa
* Kevin Burke, Peoria
Joe Gibbs for Nancy Allen, Phoenix
* Martin Lucero, Surprise
Oddvar Tveit, Tempe
* Youngtown
* Ramona Simpson, Queen Creek
* Tim Conner, Scottsdale
\# Cheri English for Walter Bouchard, American Lung Association of Arizona
Kristin Watt, Salt River Project
* Lauren Patheal Valencia, Southwest Gas Corporation
\# Michael Denby, Arizona Public Service Company
* Susie Stevens, Western States Petroleum Association
Lauren Esposito for Robert Forrest, Valley Metro/RPTA
* Dave Berry, Arizona Motor Transport Association
Liz Foster, Maricopa County Farm Bureau
* Steve Trussell, Arizona Rock Products Association
* Greater Phoenix Chamber of Commerce
* Amanda McGennis, Associated General Contractors
* Spencer Kamps, Homebuilders Association of Central Arizona
* Mannie Carpenter, Valley Forward
\# Kai Umeda, University of Arizona Cooperative Extension
Beverly Chenausky, Arizona Department of Transportation
\# Joseph Martini for the Arizona Department of Environmental Quality
* Environmental Protection Agency
Kimberly Butler, Maricopa County Air Quality Department
* Scott DiBiase, Pinal County
* Michelle Wilson, Arizona Department of Agriculture, Weights and Measures
@* Ed Stillings, Federal Highway Administration
* JC Porter, Arizona State University
Stan Belone, Salt River Pima-Maricopa Indian Community

* Members neither present nor represented by proxy.
\# Participated via telephone conference call.
\+ Participated via video conference call.
@ Ex-Officio member, non-voting member.

OTHERS PRESENT

Lindy Bauer, Maricopa Association of Governments
Julie Hoffman, Maricopa Association of Governments
Matt Poppen, Maricopa Association of Governments
Kara Spearow, Maricopa Association of Governments
Dean Giles, Maricopa Association of Governments
Taejoo Shin, Maricopa Association of Governments
Randy Sedlacek, Maricopa Association of Governments
Shane Kiesow, City of Apache Junction
Bob Huhn, Maricopa County Air Quality Department
Jennifer Anderson, Arizona Center for Law in the Public Interest
Melissa Abreu, Maricopa County Air Quality Department
Sabrina Lehrke, Maricopa County Air Quality Department
Ivan Racic, Arizona Department of Transportation

1. Call to Order

A meeting of the Maricopa Association of Governments (MAG) Air Quality Technical Advisory Committee (AQTAC) was conducted on February 21, 2019. Jon Sherrill, City of Chandler, Chair, called the meeting to order at approximately 1:35 p.m. Mario Saldamando, City of Goodyear; Joseph Martini, Arizona Department of Environmental Quality; Michael Denby, Arizona Public Service; Cheri English, American Lung Association of Arizona; and Kai Umeda, University of Arizona Cooperative Extension, attended the meeting via telephone conference call.

Chair Sherrill indicated that copies of the handouts for the meeting are available. He noted for members attending through audio conference, the presentations for the meeting will be posted on the MAG website under Materials for the Committee agenda, whenever possible. If it is not possible to post them before the meeting, they will be posted after the meeting.

2. Call to the Audience

Chair Sherrill stated that the Call to the Audience provides an opportunity for members of the public to address the Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Comment cards for those wishing to speak are available on the tables adjacent to the doorways inside the meeting room. Members of the public will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard. Chair Sherrill noted that no public comment cards had been received.

3. Approval of the October 25, 2018 Meeting Minutes

The Committee reviewed the minutes from the October 25, 2018 meeting. Oddvar Tveit, City of Tempe, moved approve the October 25, 2018 meeting minutes. Kristin Watt, Salt River Project, seconded, and the motion passed with Mr. Denby, Mr. Umeda, Ms. English, and Mr. Saldamando voting in favor of the motion by teleconference. Mr. Martini did not vote on the motion.

4. Draft MAG 2017 Inventory of Unpaved Roads

Randy Sedlacek, Maricopa Association of Governments provided a presentation on the draft MAG 2017 Inventory of Unpaved Roads. On May 23, 2007, the MAG Regional Council directed MAG to develop an unpaved roads inventory for the PM-10 nonattainment area. Mr. Sedlacek stated that the unpaved roads inventory is

primarily used to track progress in eliminating unpaved roads. He indicated that the initial unpaved roads inventory was completed in 2009. Mr. Sedlacek explained that MAG Geographic Information Systems (GIS) staff utilized aerial images to develop the draft unpaved road maps that were sent to MAG member agencies for their review. The revisions made by MAG member agencies on the review maps were incorporated into the 2009 inventory.

Mr. Sedlacek outlined the steps to update the 2017 unpaved road inventory. The unpaved road inventory was updated with the following: unpaved road data from the MAG member agencies using tracking spreadsheets; MAG Congestion Mitigation and Air Quality Improvement (CMAQ) and Transportation Improvement Plan (TIP) paving data for 2017; aerial image analysis and GIS analysis performed by MAG GIS staff; and annotated unpaved road maps received from MAG member agencies after review of draft maps. The following unpaved roads were not included in the inventory: alleys, agricultural roads, canal roads, closed unpaved roads, easements, restricted access roads, and utility roads. Mr. Sedlacek indicated that these roads were not included in the inventory due to little traffic or inaccessibility by the public.

Mr. Sedlacek displayed the year 2017 unpaved roads summary that includes the miles of public and private unpaved roads. He indicated that the number of miles for public and private unpaved roads are also included for the following categories: cities and towns; unincorporated Maricopa County; unincorporated Pinal County; federal land; and Tribal Communities and Nations. Mr. Sedlacek stated that in 2017 it is estimated that there were approximately 366 miles of public unpaved roads and 958 miles of private unpaved roads for a total of 1,324 total unpaved roads in the PM-10 nonattainment area. The total miles of public unpaved roads decreased approximately 247 miles when compared to the 2009 inventory. The total miles of private unpaved roads decreased approximately 313 miles when compared to the 2009 inventory. The decrease in public unpaved roads is due to: paving of public unpaved roads; closing of public unpaved roads; reclassification of public unpaved roads; and blockage of public unpaved roads. The decrease in private unpaved roads is due to: paving of private unpaved roads and reclassification of private unpaved roads.

Mr. Sedlacek stated that in 2011 a MAG contractor conducted an extensive field survey of private unpaved roads in the PM-10 nonattainment area to identify private unpaved roads that may have been misclassified. For example, the consultant found that some canal roads had been misclassified as private unpaved roads. The misclassified roads were removed from the inventory.

Mr. Sedlacek presented a regional map showing public unpaved roads and PM-10 monitors in the PM-10 nonattainment area for Year 2017. Public unpaved roads are denoted as red lines and PM-10 monitors as red circles on the map. Mr. Sedlacek

noted that in review of the map, most of the public unpaved roads are on the periphery of the nonattainment area and are not located near most of the PM-10 monitors.

Mr. Sedlacek displayed a regional map showing private unpaved roads and PM-10 monitors in the PM-10 nonattainment area for Year 2017. Private unpaved roads are denoted as blue lines and PM-10 monitors as red circles on the map. Mr. Sedlacek noted that in review of the map, most of the private unpaved roads are also on the periphery of the nonattainment area and are not located near most of the PM-10 monitors.

5. Update on the Winter Holiday 2018 Burn Cleaner, Burn Better Campaign

Bob Huhn, Maricopa County Air Quality Department, provided an update on the seventh annual Burn Cleaner, Burn Better Campaign. He stated that the campaign has aided in reducing PM-2.5 concentrations in the region.

Mr. Huhn stated that the campaign outreach this year was similar to previous years. He indicated that one of the most beneficial tools of the campaign is the donated use of the Arizona Department of Transportation (ADOT) freeway signs. Mr. Huhn noted that during No Burn Days, messaging would appear on the ADOT freeway signs. He indicated that when surveyed, the ADOT freeway signs are reported as one of the most visible outreach components of the campaign.

Mr. Huhn discussed the paid media coverage. He indicated that the media coverage is similar to previous years; however, the major change in the 2018 campaign was paid Spanish media coverage on Univision. Mr. Huhn stated that Maricopa County Air Quality Department (MCAQD) hired a Spanish Coordinator to aid the Burn Cleaner, Burn Better Campaign and the Maricopa County Fireplace Retrofit Program. The Spanish Coordinator began work in November 2018 and has made great strides in coordinating with the Hispanic community and neighborhood associations. Mr. Huhn added that the Spanish Coordinator recently went door-to-door in neighborhoods close to the South Phoenix and West Phoenix monitors, the areas with the highest concentrations of PM-2.5 due to smoke, to promote the Maricopa County Fireplace Retrofit Program.

Mr. Huhn noted that the campaign received news coverage for television, radio, print, and social media. He indicated that the 2018 campaign received the most news coverage compared to previous years. Mr. Huhn stated that the increase in news coverage may be due to high PM-2.5 concentration levels during the 2017/2018 winter season. He indicated that there was a Health Watch issued on December 22, 2018 and a High Pollution Advisory (HPA) on December 23, 2018. He stated that the region did not exceed the PM-2.5 standard on either of those days. Mr. Huhn noted that many news stations agreed to do interviews on various topics

with regard to the campaign and PM-2.5. He indicated that there was high media coverage on the days leading up to and on the Christmas holiday. Mr. Huhn stated that media coverage decreased on New Year's Eve and New Year's Day due to the storm front on New Year's Eve.

Mr. Huhn discussed the campaign impressions. He reported that the campaign received record high impressions, 65.3 million total impressions. Mr. Huhn noted that the data does not include light rail wrap and Bashas' impressions. He stated that the total cost per 1,000 impressions is $1.85. Mr. Huhn indicated that total cost per 1,000 impressions is higher than previous years due to paid media coverage with Univision and the Spanish Coordinator.

Mr. Huhn commented that the mobile Clean Air Make More application downloads and social media impressions are similar to previous years. He stated that there were 1,170 mobile applications of the Clean Air Make More mobile application. Impressions for social media included: 21,805 impressions for Twitter and 120,557 impressions for Facebook.

Mr. Huhn discussed the official No Burn Days. He stated that there were six PM-2.5 Health Watch and High Pollution Advisories issued during the winter season. Mr. Huhn noted that there were three exceedances of the PM-2.5 standard: December 9, 2018, December 24, 2018, and December 25, 2018.

Mr. Huhn displayed a 2018/2019 PM-2.5 comparison chart for eight monitors. He stated that the PM-2.5 concentration levels are lower this year as compared to 2018. Mr. Huhn noted that there is only one month of data for the 2019 year; however, the concentration levels for PM-2.5 are down. He reported that PM-2.5 concentration levels were high in the 2018 winter season due to meteorology, wood burning, and fireworks.

Mr. Huhn discussed enforcement. For the 2018/2019 No Burn Days, this included: 240 complaints received; 326 canvassing letters sent; 21 unconfirmed burn letters sent; 26 warning notices; and six Notices of Violation issued. Mr. Huhn explained that when a complaint is received from a neighborhood that has smoke, but a source cannot be identified, canvassing letters are sent to that neighborhood. Unconfirmed burn letters are sent when a complaint is filed for a specific address; however, the smoke cannot be verified.

Mr. Huhn reported on the public response received from residents on the campaign. The comments included: why are fireworks allowed and why is a High Pollution Advisory/No Burn Day issued on a day when rain is forecasted. Mr. Huhn stated that the Arizona Department of Environmental Quality's (ADEQ) forecast for High Pollution Advisories include: meteorology, likelihood of wood burning activity, and firework activity. In addition, the forecast for rain may come late in the day or be

different than expected in which the HPA may remain in effect. The region did not exceed the PM-2.5 standard on New Year's Eve and New Year's Day.

Derek Castaneda, City of El Mirage, inquired why the light rail wrap and the Bashas' data was not included in the impression count. Mr. Huhn replied that the light rail wrap impressions have been included in the past; however, were not included this year. He stated that Bashas' weekly advertisements are sent to 1.4 million people; however, not all are within Maricopa County. Therefore, it is difficult to quantify the number of impressions for those in Maricopa County. Mr. Huhn added that the Next Door social media impressions were also not included due to the difficulty to quantify the number of people in specific geographic locations where the social media was utilized.

Mr. Huhn reported that Maricopa County is looking into options to incorporate a game into the upcoming ozone campaign to increase resident involvement. He stated that Maricopa County is also looking into working with Amazon and Google to include No Burn Days into the weather forecasts given on home smart devices.

Mr. Saldamando asked the best contact information to give residents who call with complaints or have questions. Mr. Huhn responded that Maricopa County hosts a hotline at (602) 506-6010. He stated that the Maricopa County Inspectors and Enforcement Officers operate that line in which the Inspectors respond to complaints as quickly as possible, especially during No Burn Days. Mr. Huhn indicated that the Clean Air Make More website is the outreach website for the Maricopa County campaigns and programs. A variety of tools and features are available at www.CleanAirMakeMore.com.

Mr. Huhn discussed the Maricopa County Fireplace Retrofit Program. A total of 580 total installations have been completed to date. Mr. Huhn reported that 395 natural gas log sets and 185 catalytic converters have been installed. He noted that the catalytic converters eliminate approximately 70 percent of emissions from wood burning fireplaces. Mr. Huhn indicated that Southwest Gas and the Arizona Asthma Coalition (AAC) have donated funds to supplement retrofit costs for home located near the South Phoenix and West Phoenix monitors. Maricopa County offers up to $2,000 for gas log retrofits; however, at times the cost is higher in which Southwest Gas and the AAC funds would aid in the costs above $2,000.

Mr. Huhn discussed the Maricopa County Propane Fire Pit Program. He stated that the program provided vouchers for $75 off new propane fire pits purchased at select Home Depot stores. Mr. Huhn noted that the program is closed for the season. He indicated that Maricopa County reached its goal of redeeming 1,000 vouchers.

Mr. Huhn discussed the Maricopa County Mowing Down Pollution Program that was launched last year. He stated that the 2019 program will launch March 18, 2019. In partnership with the Arizona Department of Environmental Quality and Home

Depot, residents can receive a $150 discount for an electric or battery powered lawn mower when a gasoline powered lawn mower is recycled. The 2019 program will include a new $50 incentive for electric or battery powered garden equipment. Residents can receive both for a total of $200 incentive. In 2018, 894 lawn mowers were turned in and 864 new lawn mowers were purchased through the program. Mr. Huhn reported that approximately 23.1 tons of pollution have been reduced due to the program.

Mr. Huhn noted that the Maricopa County Fireplace Retrofit Program has a boundary area for participation; however, the Propane Fire Pit Program and the Mowing Down Pollution Program are available to all Maricopa County residents.

Robert van den Akker, City of Buckeye, inquired if Maricopa County knew which areas received the greatest success rate with the Propane Fire Pit Program and the Mowing Down Pollution Programs. Mr. Huhn responded that the Mowing Down Pollution Program had an even spread among the participating Home Depot locations throughout the region. He noted the Propane Fire Pit Program had considerable involvement from residents in Central and North Phoenix.

6. Update on 2008 Ozone Issues

Matt Poppen, Maricopa Association of Governments, presented an update on issues related to the 2008 ozone standard. He stated that the MAG Moderate Area Plan for the 2008 standard had been submitted to EPA by January 1, 2017. The plan contains 93 existing control measures and has an attainment date of July 20, 2018. In order to meet the attainment date, attainment must be demonstrated in the prior 2017 ozone season.

Mr. Poppen noted that two wildfire exceptional events have been submitted to EPA for ozone exceedances in the Maricopa nonattainment area on June 20, 2015 and July 7, 2017. EPA approval of these events is needed in order to meet the attainment date. In a February 5, 2019 letter, EPA concurred with the exceptional event documentation for the July 7, 2017 event. Additional supporting documentation for the June 20, 2015 event has been prepared by the Arizona Department of Environmental Quality and MAG and was transmitted to EPA.

Mr. Poppen provided an overview of the additional supporting documentation prepared by ADEQ and MAG and transmitted to EPA. The additional analyses include in the documentation include: NOAA smoke forecast animation, Hourly wind and water vapor modeling, HYSPLIT trajectories, satellite imagery, analysis of low dew point, analysis of ozone mixing event, and an analysis of the vertical distribution of water vapor as a tracer for the downward movement of air. Mr. Poppen provided additional maps and figures to further explain the analyses related to HYSPLIT trajectories, low measured dew points, and the vertical distribution of water vapor.

Mr. Poppen reported that ADEQ and MAG discussed the additional analyses with EPA on February 6 and February 13, 2019 and that EPA responded to the analyses with positive feedback. He stated that ADEQ and MAG are preparing an addendum for submittal to EPA that contains the additional analyses.

Lindy Bauer, Maricopa Association of Governments, commented that MAG appreciated working with ADEQ and Maricopa County in preparing the documentation for these complex wildfire exceptional event demonstrations. Hether Krause, City of Avondale, commented that she also appreciated the hard work put in by ADEQ, MAG and Maricopa County to document the wildfire exceptional events.

7. Final Rule for Implementation of the 2015 Ozone Standards: Nonattainment Area State Implementation Plan Requirements

Mr. Poppen presented on EPA's final rule for the implementation of the 2015 ozone standards. He reported that EPA issued the final rule on November 7, 2018. Mr. Poppen stated that the final rule largely updates regulations in place for the implementation of the 2008 ozone standard. He also reported that EPA did not address revocation of the 2008 ozone standard in the final rule, with EPA intending to address any revocation or any potential anti-backsliding requirements in a separate future rulemaking.

Mr. Poppen stated that the Maricopa nonattainment area for the 2015 ozone standard was classified as a Marginal Area effective August 3, 2018. The attainment date for Marginal Areas is August 3, 2021. Marginal Areas will be required to attain the standard in the prior 2020 ozone season in order to meet the attainment data.

Mr. Poppen presented a map of the Maricopa nonattainment area for the 2015 ozone standard. He remarked that the nonattainment area was expanded to include the Tonto monitor in Gila County and the Queen Valley monitor in Pinal County.

Mr. Poppen presented a figure showing the requirements associated with EPA's nonattainment area classification levels. He remarked that the Maricopa nonattainment area is a Marginal Area and has the least amount of requirements to meet. Mr. Poppen listed the requirements for a Marginal Area Plan which include: a baseline emissions inventory, periodic emissions inventory updates, emissions statement rule, nonattainment new source review (NNSR) program, emissions offset ratio of 1.1 to 1, transportation conformity, and a plan due date of August 3, 2020.

Mr. Poppen explained the preliminary evaluation of specific control measures MAG has performed in coordination with ADEQ. MAG modeled the impact of the following three control measures on 2017 ozone concentrations: setting the compliance rate of the vehicle inspection and maintenance program to 100%,

expanding Area A to cover all of Maricopa and Pinal counties, and using California Air Resources Board (CARB) Phase 3 gasoline in the summer. Mr. Poppen reported that the impact on ozone concentrations from implementation of these control measures was very minimal. He explained further that the impacts are minimal since the measures are being applied to an already relatively clean vehicle fleet that gets cleaner with each passing year. Mr. Poppen stated that the control measures with the greatest ozone impacts going forward remain the federal tailpipe and fuel measures and continued vehicle fleet turnover.

8. Call for Future Agenda Items

Chair Sherrill indicated that the next meeting of the Committee has been scheduled for Thursday, March 21, 2019 at 1:30 p.m. He requested suggestions for future agenda items. No suggestions were provided.

9. Adjournment

There being no further business, the meeting adjourned at 2:30 p.m.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

FEB 0 5 2019

Mr. Timothy S. Franquist
Director, Air Quality Division
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85507

Dear Mr. Franquist:

I am pleased to concur with your request to exclude data showing exceedances of the 2008 8-hour ozone (O_3) National Ambient Air Quality Standards (NAAQS) on July 7, 2017, at nine monitors in the Phoenix-Mesa, AZ nonattainment area under the Exceptional Events Rule (EER).

The submittal from Arizona Department of Environmental Quality (ADEQ)[1], dated May 17, 2018, included documentation that the exceedances were caused by exceptional events due to wildfire emissions. After thoroughly reviewing the information you provided, we agree that your submittal meets the demonstration criteria, as well as the schedule and procedural requirements in the EER. The basis for our concurrence is set forth in the enclosed technical support document. My staff will enter concurrence flags for these data into EPA's Air Quality System (AQS) database.

EPA's concurrence is a preliminary step in the regulatory process for actions that may rely on these data and does not constitute final Agency action. If EPA completes a notice-and-comment rulemaking for an action that is influenced by the exclusion of the O_3 data specified in this concurrence, EPA's concurrence letter and accompanying technical support document would be included in the record as part of the technical basis for the proposed action. If we receive comments, we must consider and respond to those comments before taking final regulatory action. When EPA issues that regulatory action, it is a final Agency action subject to judicial review. As you are aware, concurrence on this event alone is not sufficient to make a regulatory determination that the Phoenix-Mesa, AZ nonattainment area has attained the 2008 8-hour O_3 NAAQS by the statutory attainment date for Moderate areas. EPA is continuing to evaluate the demonstration submitted regarding whether exceptional events caused exceedances of the NAAQS that occurred on June 20, 2015. EPA anticipates issuing a determination regarding that demonstration shortly.

[1] While submitted by ADEQ, the demonstration was developed through a joint effort by ADEQ, Maricopa Association of Governments, and Maricopa County Air Quality Department.

If you have any questions or wish to discuss this matter further, please contact me at (415) 972-3183, or Meredith Kurpius at (415) 947-4534.

Sincerely,

Elizabeth J. Adams
Director, Air Division

Enclosure

cc (via email): Brad Busby, ADEQ
Lindy Bauer, Maricopa Association of Governments
Matthew Poppen, Maricopa Association of Governments

ENCLOSURE: TECHNICAL SUPPORT DOCUMENT FOR EPA CONCURRENCE ON O_3 EXCEEDANCES MEASURED IN THE PHOENIX-MESA 2008 8-HOUR O_3 NONATTAINMENT AREA ON JULY 7, 2017 AS EXCEPTIONAL EVENTS

On May 18, 2018, Arizona Department of Environmental Quality (ADEQ) submitted an exceptional event demonstration for exceedances of the 2008 8-hour ozone (O_3) National Ambient Air Quality Standards (NAAQS) that occurred at the Central Phoenix, Dysart, Glendale, Mesa, North Phoenix, Phoenix Supersite, Pinnacle Peak, South Phoenix, and West Phoenix monitoring sites on July 7, 2017.[1,2] The demonstration submitted by ADEQ stated that the exceedances measured on July 7, 2017 were caused by multiple wildfires burning in the southeastern portion of Arizona, namely the Burro, Frye, and Hilltop fires.[3] Under the Exceptional Events Rule, air agencies can request the exclusion of event-influenced data, and the EPA can agree to exclude these data from the data set used for certain regulatory decisions. The remainder of this document summarizes the Exceptional Events Rule requirements, the event, and the EPA's review process.

EXCEPTIONAL EVENTS RULE REQUIREMENTS

The EPA promulgated the Exceptional Events Rule (EER) in 2007, pursuant to the 2005 amendment of Clean Air Act (CAA) Section 319. In 2016, the EPA finalized revisions to the EER. The 2007 EER and 2016 revisions added 40 CFR 50.1(j)-(r); 50.14; and 51.930 to the Code of Federal Regulations (CFR). These sections contain definitions, criteria for EPA approval, procedural requirements, and requirements for air agency demonstrations. The EPA reviews the information and analyses in the air agency's demonstration package using a weight of evidence approach and decides to concur or not concur. The demonstration must satisfy all of the EER criteria for the EPA to concur with excluding the air quality data from regulatory decisions.

Under 40 CFR 50.14(c)(3)(iv), the air agency demonstration to justify exclusion of data must include:

A. "A narrative conceptual model that describes the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance or violation at the affected monitor(s);"

B. "A demonstration that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation;"

C. "Analyses comparing the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times" to support requirement (B) above;

[1] "State of Arizona Exceptional Event Documentation for Wildfire-Caused Ozone Exceedances on July 7, 2017 in the Maricopa Nonattainment Area," (May 2018) ("demonstration").
[2] While submitted by ADEQ, the demonstration was developed through a joint effort by ADEQ, Maricopa Association of Governments, and Maricopa County Air Quality Department.
[3] See demonstration, p. 1, 10.

D. "A demonstration that the event was both not reasonably controllable and not reasonably preventable;" and

E. "A demonstration that the event was a human activity that is unlikely to recur at a particular location or was a natural event."[4]

In addition, the air agency must meet several procedural requirements, including:

1. submission of an Initial Notification of Potential Exceptional Event and flagging of the affected data in the EPA's Air Quality System (AQS) as described in 40 CFR 50.14(c)(2)(i),

2. completion and documentation of the public comment process described in 40 CFR 50.14(c)(3)(v), and

3. implementation of any applicable mitigation requirements as described in 40 CFR 51.930.

For data influenced by exceptional events to be used in initial area designations, air agencies must also meet the initial notification and demonstration submission deadlines specified in Table 2 to 40 CFR 50.14 must be met. We include below a summary of the EER criteria, including those identified in 40 CFR 50.14(c)(3)(iv).

Regulatory Significance

The 2016 Exceptional Events Rule includes regulatory language that applies the provisions of CAA section 319 to a specific set of regulatory actions. As identified in 40 CFR 50.14(a)(1)(i), these regulatory actions include initial area designations and redesignations; area classifications; attainment determinations (including clean data determinations); attainment date extensions; findings of State Implementation Plan (SIP) inadequacy leading to a SIP call; and other actions on a case-by-case basis as determined by the Administrator. Air agencies and the EPA should discuss the regulatory significance of an exceptional events demonstration during the Initial Notification of Potential Exceptional Event prior to the air agency submitting a demonstration for the EPA's review.

Narrative Conceptual Model

The 2016 Exceptional Events Rule directs air agencies to submit, as part of the demonstration, a narrative conceptual model of the event that describes and summarizes the event in question and provides context for analyzing the required statutory and regulatory technical criteria. Air agencies may support the narrative conceptual model with summary tables or maps. For wildfire O_3 events, the EPA recommends that the narrative conceptual model also discuss the

[4] A natural event is further described in 40 CFR 50.1(k) as "an event and its resulting emissions, which may recur at the same location, in which human activity plays little or no direct causal role. For purposes of the definition of a natural event, anthropogenic sources that are reasonably controlled shall be considered to not play a direct role in causing emissions."

interaction of emissions, meteorology, and chemistry of event and non-event O_3 formation in the area, and, under 40 CFR 50.14(a)(1)(i), must describe the regulatory significance of the proposed data exclusion.

Clear Causal Relationship and Supporting Analyses

The EPA considers a variety of evidence when evaluating whether there is a clear causal relationship between a specific event and the monitored exceedance or violation. For wildfire O_3 events, air agencies should compare the O_3 data requested for exclusion with seasonal and annual historical concentrations at the air quality monitor to establish a clear causal relationship between the event and monitored data. In addition to providing this information on the historical context for the event-influenced data, air agencies should further support the clear causal relationship criterion by demonstrating that the wildfire's emissions were transported to the monitor, that the emissions from the wildfire influenced the monitored concentrations, and, in some cases, air agencies may need to provide evidence of the contribution of the wildfire's emissions to the monitored O_3 exceedance or violation.

For wildfire O_3 events, the EPA has published a guidance document that provides three different tiers of analyses that apply to the "clear causal relationship" criterion within an air agency's exceptional events demonstration.[5] This tiered approach recognizes that some wildfire events may be more clear and/or extreme and, therefore, require relatively less evidence to satisfy the rule requirements. If a wildfire O_3 event satisfies the key factors for either Tier 1 or Tier 2 clear causal analyses, then those analyses are the only analyses required to support the clear causal relationship criterion within an air agency's demonstration for that particular event. Other wildfire/O_3 events will be considered based on Tier 3 analyses.

- Tier 1: Wildfires that clearly influence monitored O_3 exceedances or violations when they occur in an area that typically experiences lower O_3 concentrations.
    - *Key Factor*: seasonality and/or distinctive level of the monitored O_3 concentration. The event-related exceedance occurs during a time of year that typically has no exceedances, or is clearly distinguishable (*e.g.*, 5-10 ppb higher) from non-event exceedances.
    - In these situations, O_3 impacts should be accompanied by clear evidence that the wildfire's emissions were transported to the location of the monitor.

- Tier 2: The wildfire event's O_3 influences are higher than non-event related concentrations, and fire emissions compared to the fire's distance from the affected monitor indicate a clear causal relationship.
    - *Key Factor 1*: fire emissions and distance of fire(s) to affected monitoring site location(s). Calculated fire emissions of nitrogen oxides (NO_x) and reactive-volatile organic compounds (VOC) in tons per day (Q) divided by the distance from the fire to the monitoring site (D) should be equal to or greater than 100 tons

[5] "Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations" (September 2016).

per day/kilometers (Q/D ≥ 100 tpd/km). The guidance document provides additional information on the calculation of Q/D.

- *Key Factor 2*: comparison of the event-related O_3 concentration with non-event related high O_3 concentrations. The exceedance due to the exceptional event:
  - is in the 99th or higher percentile of the 5-year distribution of O_3 monitoring data, OR
  - is one of the four highest O_3 concentrations within 1 year (among those concentrations that have not already been excluded under the Exceptional Events Rule, if any).
- In addition to the analysis required for Tier 1, the air agency should supply additional evidence to support the weight of evidence that emissions from the wildfire affected the monitored O_3 concentration.

- Tier 3: The wildfire does not fall into the specific scenarios (i.e., does not meet the key factors) that qualify for Tier 1 or Tier 2, but the clear causal relationship criterion can still be satisfied by a weight of evidence showing.
  - In addition to the analyses required for Tier 1 and Tier 2, an air agency may further support the clear causal relationship with additional evidence that the fire emissions caused the O_3 exceedance.

Not Reasonably Controllable or Preventable

The EER requires that air agencies establish that the event be both not reasonably controllable and not reasonably preventable at the time the event occurred. This requirement applies to both natural events and events caused by human activities; however, it is presumed that wildfires on wildland will satisfy both factors of the "not reasonably controllable or preventable" element unless evidence in the record clearly demonstrates otherwise.[6]

Natural Event or Event Caused by Human Activity That is Unlikely to Recur

According to the CAA and the Exceptional Events Rule, an exceptional event must be "an event caused by human activity that is unlikely to recur at a particular location *or* a natural event" (emphasis added). The 2016 Exceptional Events Rule includes in the definition of wildfire that "[a] wildfire that predominantly occurs on wildland is a natural event." Once an agency provides evidence that a wildfire on wildland occurred and demonstrates that there is a clear causal relationship between the measurement under consideration and the event, the EPA expects minimal documentation to satisfy the "human activity that is unlikely to recur at a particular location or a natural event" element. The EPA will address wildfires on other lands on a case-by-case basis.

[6] A wildfire is defined in 40 CFR 50.1(n) as "any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions, or a prescribed fire that has developed into a wildfire. A wildfire that predominantly occurs on wildland is a natural event." Wildland is defined in 40 CFR 50.1(o) as "an area in which human activity and development are essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered."

EPA REVIEW OF EXCEPTIONAL EVENTS DEMONSTRATION

On March 27, 2018, ADEQ submitted an Initial Notification of Potential Exceptional Event for exceedances of the 2008 8-hour O_3 National Ambient Air Quality Standards (NAAQS) that occurred at Central Phoenix, Dysart, Glendale, Mesa, North Phoenix, Phoenix Supersite, Pinnacle Peak, South Phoenix, and West Phoenix monitoring sites within the Phoenix-Mesa, AZ nonattainment area for the 2008 8-hour O_3 NAAQS (hereafter "nonattainment area") on July 7, 2017.[7] On May 18, 2018, ADEQ submitted the demonstration for these exceedances.

Regulatory Significance

The EPA determined that data exclusion of the exceedances may have regulatory significance for attainment by the Moderate area attainment date for this nonattainment area, and worked with ADEQ to identify the relevant exceedances and monitoring sites affected.[8] Table 1 summarizes the exceedances that ADEQ included in the demonstration.

Table 1: EPA 2008 8-hour O_3 NAAQS Exceedance Summary

Exceedance Date	Monitor/Site Name	AQS ID	8-hour Avg. (ppm)
July 7, 2017	Central Phoenix	04-013-3002	0.078
July 7, 2017	Dysart	04-013-4010	0.087
July 7, 2017	Glendale	04-013-2001	0.079
July 7, 2017	Mesa	04-013-1003	0.078
July 7, 2017	North Phoenix	04-013-1004	0.085
July 7, 2017	Phoenix Supersite	04-013-9997	0.086
July 7, 2017	Pinnacle Peak	04-013-2005	0.077
July 7, 2017	South Phoenix	04-013-4003	0.077
July 7, 2017	West Phoenix	04-013-0019	0.084

Narrative Conceptual Model

The demonstration submitted by ADEQ provided a narrative conceptual model in Section II to describe how emissions from several fires in southeastern Arizona caused O_3 exceedances at Central Phoenix, Dysart, Glendale, Mesa, North Phoenix, Phoenix Supersite, Pinnacle Peak, South Phoenix, and West Phoenix monitoring sites. The narrative conceptual model included characteristics of the nonattainment area and surrounding areas, such as descriptions of typical O_3 formation, the ambient O_3 monitoring network, meteorology, geography, topography, emissions and seasonal O_3 variations.[9]

Section II also described event-related characteristics and included ADEQ's claims that the observed exceedances were caused by emissions from multiple fires in southeastern Arizona and that these exceedances qualify as an exceptional event under the EER. The demonstration

[7] See letter from Timothy Franquist, ADEQ, to Elizabeth Adams, EPA Region 9, dated March 27, 2018.
[8] See letter from Gwen Yoshimura, EPA Region 9, to Timothy Franquist, ADEQ, dated May 8, 2018.
[9] See demonstration, p. 6-10.

included a summary of the event, stating that wildfires burned from July 1 through July 7, 2017 and that the wildfire emissions impacted the nonattainment area on July 7, 2017. The demonstration specifically identified the Burro, Frye, and Hilltop fires as the three fires that produced the most emissions, and provided a list of the actively burning wildfires in southeastern Arizona from July 1 through July 7, 2017 with information such as the start/end date, total acres burned and the fire perimeter in acres, along with a map of their locations.[10]

The demonstration also included a description of the general meteorological conditions that led to transport of wildfire emissions from the fires in southeastern Arizona to the nonattainment area and provided daily surface weather maps for July 6 through 8, 2017, showing a "Four Corners high" (i.e. a high pressure ridge over the Four Corners area, including northeastern Arizona) that weakened on July 7 and 8, resulting in a shift of the winds from out of the southwest to out of the southeast, and promoting vertical mixing of air aloft to the ground. The demonstration also provided smoke maps for July 1 through July 10, 2017, along with HYSPLIT back trajectories from the Phoenix Supersite monitor to further illustrate the fire locations and emissions, as well as the atmospheric transport leading up to and following the July 7, 2017 event.[11] The HYSPLIT trajectories show that from July 1 through July 5, 2017, the airflow was generally from the west and southwest. On July 6, 2017, the airflow direction, as indicated by the trajectories, began to shift towards coming from the east and southeast, where the wildfires were located. This shift continued on July 7 and 8, 2017, consistent with the weakening of the "Four Corners high" shown on the surface weather maps.

The demonstration presented daily 8-hour maximum O_3 concentrations for all O_3 monitoring sites in the nonattainment area between June 30 and July 14, 2017, in table and graph form. The demonstration also included a separate bar graph of daily 8-hour maximum O_3 concentrations for only the exceeding monitors between June 30 and July 14, 2017, and a diurnal profile of the exceeding monitors on July 7, 2017. The demonstration stated that O_3 and O_3 precursor emissions were transported from the wildfires to the nonattainment area after a shift in airflow patterns as described above. After this shift occurred, O_3 and O_3 precursor emissions were transported to the nonattainment area the evening of July 6 through July 7, 2017, leading to exceedances of the 2008 8-hour O_3 NAAQS at nine air monitoring sites on July 7, 2017.[12]

Based on the information described above, the demonstration submitted by ADEQ meets the narrative conceptual model criterion of the EER.

Table 2: Documentation of Narrative Conceptual Model

Exceedance Date	**Demonstration Citation**	**Quality of Evidence**	**Criterion Met?**
July 7, 2017	Section II: p 6-34	Sufficient	Yes

[10] See demonstration, p. 10-12.
[11] See demonstration, p. 13-29.
[12] See demonstration, p. 13, 30-34.

Clear Causal Relationship

The demonstration included several analyses to support a clear causal relationship between the wildfire event and the monitored exceedances. These analyses are presented in Section III of the demonstration.

Comparison with historical concentrations

The demonstration included a comparison with historical concentrations, as required by 40 CFR 50.14(c)(3)(iv)(C).[13] The demonstration compared the event-related O_3 concentrations with all April through October concentrations from 2013-2017. The plots provided show that daily maximum 8-hour average O_3 concentrations on July 7, 2017 were at or above the 5-year 99th percentile value for every exceeding monitor except for Mesa and Pinnacle Peak, which had concentrations below the 99th percentile. The Mesa concentration was the fourth highest daily maximum 8-hour average O_3 concentration in 2017, and the Pinnacle Peak concentration was the second highest daily maximum 8-hour average O_3 concentration in 2017. Notably, the Dysart concentration was the highest ever daily maximum 8-hour average O_3 concentration recorded since monitoring began in 2003, at 13 ppb higher than the 99th percentile and 4 ppb higher than ever recorded since monitoring began at the site in 2003.

Tier 1: Key Factor

To meet the key factor for a Tier 1 analysis, exceedances should be clearly higher than other non-event related exceedances, or occur during a time of year that typically experiences no exceedances. The event-related exceedances identified in this demonstration occurred during the regular O_3 season, during times when other exceedances similar in magnitude were measured for most of the monitors (with the exception of the Dysart monitor, which measured unusually high concentrations as previously noted). Therefore, most of the event exceedances do not meet the Tier 1 Key Factor, and additional evidence beyond a Tier 1 analysis is needed to support the clear causal relationship.

Tier 2: Key Factors

The demonstration included an evaluation of the Tier 2 Key Factors. For Tier 2 Key Factor 1, the demonstration provided an analysis of fire emissions (Q) and distance (D) of the wildfires to the monitoring site locations.[14] Q was calculated from emissions during July 5-7, 2017 for the Burro, Crack Tank, Elk Horn, Frye, Hilltop, SH Creek, and Sheep fires, using perimeter growth and BlueSky Playground.[15] The demonstration stated that emissions were considered over these three days, since emissions from wildfires can accumulate over time to produce O_3 and O_3 precursors. On this basis, a Q equal to the sum of fire emissions over three days was used, as opposed to a single day as described in the EPA's wildfire O_3 guidance document. The distance D from each fire to the Phoenix Supersite monitor, which is somewhat centrally located within the nonattainment area, was calculated. Using these values, Q/D was determined for each individual fire, as well as a direct sum and a distance-weighted sum of Q/D for all fires in the area. The distance-weighted sum is 21.09 tons of NO_x and VOC over the three days per km, which is well

[13] See demonstration, p. 35-46.
[14] See demonstration, p. 47-48.
[15] U.S. Forest Service's BlueSky Playground, available at *https://tools.airfire.org/playground/.*

below the Tier 2 Key Factor 1 screening value of 100 tons per day/km. Therefore, the event exceedances do not meet Tier 2 Key Factor 1.

For Tier 2 Key Factor 2, the demonstration included evidence that the exceedances are at or above the 99th percentile from the past five years of O_3 season data (April-October 2013-2017) or were among the four highest concentrations measured at the site in 2017.[16] All but two of the monitors had event concentrations at or above the 99th percentile for the 5-year period while two monitors (Pinnacle Peak and Mesa) did not. However, the event concentration at Pinnacle Peak was the second highest O_3 concentration measured at the site in 2017, and the event concentration at Mesa was the fourth highest concentration measured at the site in 2017. Therefore, the event exceedances meet Tier 2 Key Factor 2.

Based on the analysis of the Key Factors for Tier 2, the EPA's wildfire O_3 guidance document indicates that a Tier 3 analysis is appropriate for this event. As described below, the demonstration included the required elements for a Tier 3 clear causal relationship analysis based on the EPA's wildfire O_3 guidance document. This includes evidence to support that (1) wildfire emissions were transported from the wildfire to the monitor; (2) wildfire emissions affected the monitor; and (3) wildfire emissions caused the O_3 exceedances.

Evidence of transport of wildfire emissions from the wildfire to the monitor

The demonstration presented a trajectory analysis using the HYSPLIT model to show transport from the fires to the exceeding monitors.[17] The analysis included 24-hour back trajectories from each of the nine exceeding monitoring sites at 100, 500, and 1500 meters elevation, which were plotted on maps with the monitor and fire locations. The trajectories were run from 4:00PM local time on July 7, 2017, to correspond approximately with the hour of peak O_3 concentration. The individual trajectories vary by monitor and height, but generally show transport from areas southeast of the nonattainment area, where the fires are located. All exceeding monitors show at least one trajectory passing over or near at least one of the fires with the highest emissions on July 5-7, 2017. Generally, the 1500-meter trajectories are more consistent with transport from the Hilltop and SH Creek fires directly east of the nonattainment area, while the lower trajectories are more consistent with transport from the Frye, Sheep, and Burro fires to the southeast, although this varies by monitor.

The demonstration also included satellite imagery, as well as National Oceanic and Atmospheric Administration (NOAA) smoke maps, showing light smoke over much of the Phoenix nonattainment area on July 7, 2017.[18] The EPA's wildfire O_3 guidance document suggests that to show transport, satellite imagery should be accompanied by evidence of the plume reaching the ground. The demonstration stated that the increased O_3 concentrations, coincident with the smoke observed by satellite, demonstrated that smoke reached the ground.[19] The demonstration also included photos from visibility cameras to show reduced visibility on July 7, 2017, as well as diurnal, ground level concentrations of O_3, nitrogen dioxide (NO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and carbon monoxide (CO) (along with a comparison to

[16] See demonstration, p. 37-45, 49.
[17] See demonstration, p. 49-59.
[18] See demonstration, p. 20-29, 50, 60-69.
[19] See demonstration, p. 50.

historical concentrations, as discussed in the following section) to support that smoke reached the ground on July 7, 2017.[20]

Overall, the trajectory analysis and satellite imagery with evidence of smoke reaching the ground show that emissions from the fires in southeastern Arizona were transported to the nonattainment area and monitoring sites within on July 7, 2017.

Evidence that the wildfire emissions affected the monitor

The demonstration provided diurnal profiles of O_3, NO_2, $PM_{2.5}$, and CO from the West Phoenix monitor on July 6-8, 2017, along with the 5th, 50th, and 95th historical percentile concentrations of the respective pollutants for each hour by day of week, based on five years of concentrations measured in July at the site.[21] West Phoenix was chosen as it was one of two sites that had all four measurements in the same location, and CO data from the other site with all four measurements (Phoenix Supersite) was unavailable for the hours leading up to and during the event. Similar analyses were provided, as available, for monitors at the other sites that exceeded the O_3 NAAQS on July 7, 2017 in Appendix F. The data from the West Phoenix site show that NO_2, $PM_{2.5}$, and to a lesser extent CO were generally elevated relative to the percentile values for each hour, between approximately 7:00PM on July 6 and 10:00AM on July 7, 2017. During much of this time, likely due to scavenging by the elevated NO_x, O_3 concentrations were similarly decreased relative to the percentile concentrations, at some points falling below the 5th percentile line. Starting at approximately 8:00AM, O_3 concentrations steeply increased, rising to near or above the 95th percentile line for many hours throughout the afternoon. ADEQ indicates that the coincident increases in CO, NO_2, and $PM_{2.5}$ concentrations demonstrate that wildfire emissions were transported to the nonattainment area and affected monitors overnight between July 6 and July 7, 2017, and the increase in precursor concentrations (particularly NO_x) from the presence of wildfire smoke contributed to the increased O_3 production on July 7, 2017.

Overall, the coincident increases of pollutants associated with wildfire smoke (CO, $PM_{2.5}$, and NO_2) and responses in O_3 concentrations provide some evidence that wildfire emissions reached the ground and affected monitors within the nonattainment area on July 7, 2017.

Additional evidence that the wildfire emissions caused the O_3 exceedance

The demonstration included additional evidence to support that the wildfire emissions specifically affected O_3 concentrations at the nine exceeding monitoring sites and caused the O_3 exceedances. A matching day analysis was provided, which included two evaluations: first, an examination of days in July of 2013 through 2017 with similar meteorological conditions to July 7, 2017, and second, an examination of the meteorological conditions and precursor pollutant concentrations of all (non-event) exceedance days in July of 2013 through 2017.[22]

The analysis for days with similar meteorological conditions identified five matching days based on resultant wind directions, resultant wind speed, average wind speed, maximum temperature, and the exclusion of days with significant weather events (e.g. large dust storms, heavy rain). As July 7, 2017 experienced a record-setting maximum temperature, identifying days with high

[20] See demonstration, p. 70-83.
[21] See demonstration, p. 77-83.
[22] See demonstration, p. 84-101.

maximum temperature was prioritized, as well as resultant wind direction. Of the five matching days selected, four of the days did not record exceedances of the 2008 O_3 NAAQS at any of the monitors that exceeded on July 7, 2017, and several of those days measured concentrations across the network that were well below the NAAQS. On the fifth day, July 8, 2013, exceedances were recorded at four of the nine monitors that exceeded on July 7, 2017. The demonstration noted that some screening tools and elevated $PM_{2.5}$ concentrations suggested that July 8, 2013 could also have been influenced by wildfire emissions. This day was further discussed in the second matching day evaluation. Overall, the demonstration concluded that the first matching day analysis showed that the July 7, 2017 O_3 concentrations were unusual compared to days with similar meteorology, which generally did not result in exceedances of the 8-hour 2008 O_3 NAAQS.

The analysis of monitored non-event exceedance days identified 13 other exceedance days, besides the event day, in July of 2013 through 2017 where exceedances of the 2008 O_3 NAAQS occurred at one or more of the nine monitors that exceeded on July 7, 2017. Nine of these days experienced exceedances at two or fewer of the nine monitoring sites. The remaining four days experienced exceedances at four to seven of the nine monitoring sites and were considered most similar to the July 7, 2017 exceedance patterns. The demonstration included an assessment of O_3, NO_2, CO, and $PM_{2.5}$ concentrations on and around these four days (which included the July 8, 2013 exceedance day identified in the first matching day analysis) to identify potential differences between the four non-event exceedance days and the claimed event exceedance day. For all four non-event exceedances, hourly daytime O_3 concentrations on the day preceding the exceedance day were at or near the 95th percentile, suggesting that these four exceedance days resulted from a buildup of O_3 from the previous day or days. In contrast, the day before the event exceedance day, hourly daytime O_3 concentrations were around the 50th percentile; concentrations jumped dramatically to the July 7, 2017 exceedance, which was the highest exceedance measured over the five-year period from 2013 through 2017 at five of the nine monitors.

The analysis also showed that $PM_{2.5}$, NO_2, and CO were all elevated in the hours before the July 7, 2017 exceedance, suggesting that smoke and O_3 precursors were present and affected O_3 concentrations in the nonattainment area, as previously discussed. On the other four exceedance days, these other pollutants were generally not elevated to the same degree as on July 7, 2017; $PM_{2.5}$ was elevated on the day preceding the July 8, 2013 exceedance, which may suggest that this exceedance day could have been influenced by wildfire smoke as well, but was not elevated on the exceedance day itself. Overall, this evidence suggests that the concentrations on the non-event exceedance days were likely not influenced by wildfire smoke, and that these days instead likely resulted from accumulation of O_3 within the nonattainment area over multiple days, whereas the July 7, 2017 exceedance was preceded and followed by generally low O_3 concentrations. The uniqueness of the July 7, 2017 exceedance in comparison to other exceedances also supports a clear causal relationship between the wildfire emissions and the exceedances on that day.

The analyses included in the demonstration, specifically, the comparison with historical daily maximum 8-hour average O_3 concentrations, HYSPLIT trajectory analyses, satellite imagery of smoke, diurnal concentrations of O_3, increases in other pollutants typically associated with

wildfire emissions including $PM_{2.5}$, CO, and NO_2, and matching day analyses, sufficiently demonstrate a clear causal relationship between the emissions generated by the wildfire emissions in southeastern Arizona and the exceedances measured at the Central Phoenix, Dysart, Glendale, Mesa, North Phoenix, Phoenix Supersite, Pinnacle Peak, South Phoenix, and West Phoenix monitoring sites.

Table 3: Documentation of Clear Causal Relationship

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
July 7, 2017	Section II: p. 20-29 Section III: p. 35-101	Sufficient	Yes

Not Reasonably Controllable or Preventable

The EER presumes that wildfire events on wildland are not generally reasonable to control or prevent. The demonstration provided evidence that the wildfire event meets definition of a wildfire. Specifically, the demonstration states that "...[b]ased on the documentation provided in Section II of this submittal, the event meets the definition of a wildfire, as the southeastern Arizona wildfires were all located on wildlands."[23] Therefore, the documentation provided sufficiently demonstrates that the event was not reasonably controllable and not reasonably preventable.

Table 4: Documentation of Not Reasonably Controllable or Preventable

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
July 7, 2017	Section I: p. 10-12, Section IV: p. 102	Sufficient	Yes

Natural Event

The definition of "wildfire" at 40 CFR 50.1(n) states, "A wildfire that predominantly occurs on wildland is a natural event." The demonstration includes documentation that the event meets the definition of a wildfire and occurred predominantly on wildland, and has therefore shown that the event was a natural event.

Table 5: Documentation of Natural Event

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
July 7, 2017	Section I: p. 10-12, Section IV: p. 102	Sufficient	Yes

Schedule and Procedural Requirements

In addition to technical demonstration requirements, 40 CFR 50.14(c) and 40 CFR 51.930 specify schedule and procedural requirements an air agency must follow to request data exclusion. Table 6 outlines the EPA's evaluation of these requirements.

[23] See demonstration, p. 102.

Table 6: Schedules and Procedural Criteria

	Reference	Demonstration Citation	Criterion Met?
Did the agency provide prompt public notification of the event?	40 CFR 50.14 (c)(1)(i)	Section I: p 3, Appendix A	Yes
Did the agency submit an Initial Notification of Potential Exceptional Event and flag the affected data in the EPA's Air Quality System (AQS)?	40 CFR 50.14 (c)(2)(i)	Section I: p. 3-4, Appendix E	Yes
Did the initial notification and demonstration submittals meet the deadlines for data influenced by exceptional events for use in initial area designations, if applicable? Or the deadlines established by the EPA during the Initial Notification of Potential Exceptional Events process, if applicable?	40 CFR 50.14 Table 2 40 CFR 50.14 (c)(2)(i)(B)	Section I: p. 3-4, Appendix E; May 8, 2018 Letter[24]	Yes
Was the public comment process followed and documented? • Did the agency document that the comment period was open for a minimum of 30 days? • Did the agency submit to the EPA any public comments received? • Did the state address comments disputing or contradicting factual evidence provided in the demonstration?	40 CFR 50.14 (c)(3)(v)	Section I: p. 4, Appendix D; July 17, 2018 Letter[25]	Yes
Has the agency met requirements regarding submission of a mitigation plan, if applicable?	40 CFR 51.930 (b)	NA	NA

Conclusion

The EPA has reviewed the documentation provided by ADEQ to support claims that smoke from wildfires in southeastern Arizona caused exceedances of the 2008 8-hour O_3 NAAQS at the Central Phoenix, Dysart, Glendale, Mesa, North Phoenix, Phoenix Supersite, Pinnacle Peak, South Phoenix, and West Phoenix monitoring sites on July 7, 2017. The EPA has determined that the flagged exceedances at these monitoring sites on this day satisfy the exceptional event criteria: the event was a natural event, which affected air quality in such a way that there exists a clear causal relationship between the event and the monitored exceedance, and was not reasonably controllable or preventable. The EPA has also determined that ADEQ has satisfied the procedural requirements for data exclusion.

[24] See letter from Gwen Yoshimura, EPA Region 9, to Timothy Franquist, ADEQ, dated May 8, 2018.
[25] See letter from Timothy Franquist, ADEQ, to Michael Stoker, EPA Region 9, dated July 17, 2018.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAY 07 2019

Mr. Timothy S. Franquist
Director, Air Quality Division
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Dear Mr. Franquist: Tim

I am pleased to concur with your request to exclude data showing exceedances of the 2008 8-hour ozone (O_3) National Ambient Air Quality Standards (NAAQS) on June 20, 2015, at six monitors in and near the Phoenix-Mesa, AZ nonattainment area under the Exceptional Events Rule (EER).

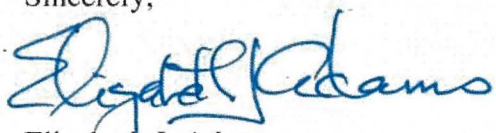
The submittals from Arizona Department of Environmental Quality (ADEQ)[1], dated September 27, 2016, May 17, 2018, and March 26, 2019, included documentation that the June 20, 2015 exceedances were caused by exceptional events due to wildfire emissions. We appreciate the technical thought and expertise brought to bear, and the collaborative approach used to develop these submittals. After thoroughly reviewing the information you provided, we agree that your submittals meet the demonstration criteria and the schedule and procedural requirements in the EER. The basis for our concurrence is set forth in the enclosed technical support document. My staff will enter concurrence flags for these data into the U.S. Environmental Protection Agency's (EPA's) Air Quality System database.

EPA's concurrence is a preliminary step in the regulatory process for actions that may rely on these data and does not constitute final Agency action. If EPA completes a notice-and-comment rulemaking for an action that is influenced by the exclusion of the O_3 data specified in this concurrence, EPA's concurrence letter and accompanying technical support document would be included in the record as part of the technical basis for the proposed action. If we receive comments, we must consider and respond to those comments before taking final regulatory action. When EPA issues that regulatory action, it is a final Agency action subject to judicial review.

[1] While submitted by ADEQ, the demonstration and addenda were developed through a joint effort by ADEQ, Maricopa Association of Governments (MAG), and Maricopa County Air Quality Department.

If you have any questions or wish to discuss this matter further, please contact me at (415) 972-3183, or Meredith Kurpius at (415) 947-4534.

Sincerely,



Elizabeth J. Adams
Director, Air Division

Enclosure

cc (via email): Brad Busby, ADEQ
Lindy Bauer, MAG
Matthew Poppen, MAG

ENCLOSURE: TECHNICAL SUPPORT DOCUMENT FOR EPA CONCURRENCE ON O_3 EXCEEDANCES MEASURED IN THE PHOENIX-MESA 2008 8-HOUR O_3 NONATTAINMENT AREA ON JUNE 20, 2015 AS EXCEPTIONAL EVENTS

On September 27, 2016, Arizona Department of Environmental Quality (ADEQ) submitted an exceptional event demonstration for exceedances of the 2008 8-hour ozone (O_3) National Ambient Air Quality Standards (NAAQS) that occurred at the Apache Junction, Blue Point, Falcon Field, Mesa, Pinnacle Peak, and Tonto National Monument monitoring sites on June 20, 2015.[1] ADEQ also submitted one addendum on May 17, 2018, and a second addendum on March 26, 2019, to supplement the demonstration. [2,3,4] The demonstration and addenda submitted by ADEQ stated that the exceedances measured on June 20, 2015, were caused by the Lake Fire in the San Bernardino National Forest in southeastern California.[5] Under the Exceptional Events Rule (EER), air agencies can request the exclusion of event-influenced data, and the Environmental Protection Agency (EPA) can agree to exclude these data from the data set used for certain regulatory decisions. The remainder of this document summarizes the EER requirements, the event, and the EPA's review process.

EXCEPTIONAL EVENTS RULE REQUIREMENTS

The EPA promulgated the EER in 2007, pursuant to the 2005 amendment of Clean Air Act (CAA) Section 319. In 2016, the EPA finalized revisions to the EER. The 2007 EER and 2016 revisions added 40 CFR 50.1(j)-(r); 50.14; and 51.930 to the Code of Federal Regulations (CFR). These sections contain definitions, criteria for EPA approval, procedural requirements, and requirements for air agency demonstrations. The EPA reviews the information and analyses in the air agency's demonstration package using a weight of evidence approach and decides to concur or not concur. The demonstration must satisfy all of the EER criteria for the EPA to concur with excluding the air quality data from regulatory decisions.

Under 40 CFR 50.14(c)(3)(iv), the air agency demonstration to justify exclusion of data must include:

A. "A narrative conceptual model that describes the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance or violation at the affected monitor(s);"

B. "A demonstration that the event affected air quality in such a way that there exists a

[1] "State of Arizona Exceptional Event Documentation for Wildfire-Caused Ozone Exceedances on June 20, 2015 in the Maricopa Nonattainment Area," (September 2016) ("demonstration").
[2] "Addendum to: State of Arizona Exceptional Event Documentation for Wildfire-Caused Exceedances on June 20, 2015 in the Maricopa Nonattainment Area – September 2016; Additional Evidence that Ozone and Ozone Precursor Emissions From the Lake Fire Reached and Affected Ozone Monitors Within the Maricopa Nonattainment Area" (May 2018) ("first addendum").
[3] "Addendum to: State of Arizona Exceptional Event Documentation for Wildfire-Caused Exceedances on June 20, 2015 in the Maricopa Nonattainment Area – September 2016; Expanded Conceptual Model Linking Ozone and Ozone Precursors From the Lake Fire with the Ozone Exceedances in the Maricopa Nonattainment Area," (March 2019) ("second addendum").
[4] While submitted by ADEQ, the demonstration and addenda were developed through a joint effort by ADEQ, Maricopa Association of Governments, and Maricopa County Air Quality Department.
[5] See demonstration, p. 1.

clear causal relationship between the specific event and the monitored exceedance or violation;"

C. "Analyses comparing the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times" to support requirement (B) above;

D. "A demonstration that the event was both not reasonably controllable and not reasonably preventable;" and

E. "A demonstration that the event was a human activity that is unlikely to recur at a particular location or was a natural event."[6]

In addition, the air agency must meet several procedural requirements, including:

1. submission of an Initial Notification of Potential Exceptional Event and flagging of the affected data in the EPA's Air Quality System (AQS) as described in 40 CFR 50.14(c)(2)(i),

2. completion and documentation of the public comment process described in 40 CFR 50.14(c)(3)(v), and

3. implementation of any applicable mitigation requirements as described in 40 CFR 51.930.

For data influenced by exceptional events to be used in initial area designations, air agencies must also meet the initial notification and demonstration submission deadlines specified in Table 2 to 40 CFR 50.14 must be met. We include below a summary of the EER criteria, including those identified in 40 CFR 50.14(c)(3)(iv).

Regulatory Significance

The 2016 EER includes regulatory language that applies the provisions of CAA section 319 to a specific set of regulatory actions. As identified in 40 CFR 50.14(a)(1)(i), these regulatory actions include initial area designations and redesignations; area classifications; attainment determinations (including clean data determinations); attainment date extensions; findings of State Implementation Plan (SIP) inadequacy leading to a SIP call; and other actions on a case-by-case basis as determined by the Administrator. Air agencies and the EPA should discuss the regulatory significance of an exceptional events demonstration during the Initial Notification of Potential Exceptional Event prior to the air agency submitting a demonstration for the EPA's review.

[6] A natural event is further described in 40 CFR 50.1(k) as "an event and its resulting emissions, which may recur at the same location, in which human activity plays little or no direct causal role. For purposes of the definition of a natural event, anthropogenic sources that are reasonably controlled shall be considered to not play a direct role in causing emissions."

Narrative Conceptual Model

The 2016 EER directs air agencies to submit, as part of the demonstration, a narrative conceptual model of the event that describes and summarizes the event in question and provides context for analyzing the required statutory and regulatory technical criteria. Air agencies may support the narrative conceptual model with summary tables or maps. For wildfire O_3 events, the EPA recommends that the narrative conceptual model also discuss the interaction of emissions, meteorology, and chemistry of event and non-event O_3 formation in the area, and, under 40 CFR 50.14(a)(1)(i), must describe the regulatory significance of the proposed data exclusion.

Clear Causal Relationship and Supporting Analyses

The EPA considers a variety of evidence when evaluating whether there is a clear causal relationship between a specific event and the monitored exceedance or violation. For wildfire O_3 events, air agencies should compare the O_3 data requested for exclusion with seasonal and annual historical concentrations at the air quality monitor to establish a clear causal relationship between the event and monitored data. In addition to providing this information on the historical context for the event-influenced data, air agencies should further support the clear causal relationship criterion by demonstrating that the wildfire's emissions were transported to the monitor, that the emissions from the wildfire influenced the monitored concentrations, and, in some cases, air agencies may need to provide evidence of the contribution of the wildfire's emissions to the monitored O_3 exceedance or violation.

For wildfire O_3 events, the EPA has published a guidance document that provides three different tiers of analyses that apply to the "clear causal relationship" criterion within an air agency's exceptional events demonstration.[7] This tiered approach recognizes that some wildfire events may be more clear and/or extreme and, therefore, require relatively less evidence to satisfy the rule requirements. If a wildfire O_3 event satisfies the key factors for either Tier 1 or Tier 2 clear causal analyses, then those analyses are the only analyses required to support the clear causal relationship criterion within an air agency's demonstration for that particular event. Other wildfire/ O_3 events will be considered based on Tier 3 analyses.

- Tier 1: Wildfires that clearly influence monitored O_3 exceedances or violations when they occur in an area that typically experiences lower O_3 concentrations.
    - *Key Factor*: seasonality and/or distinctive level of the monitored O_3 concentration. The event-related exceedance occurs during a time of year that typically has no exceedances, or is clearly distinguishable (e.g., 5-10 ppb higher) from non-event exceedances.
    - In these situations, O_3 impacts should be accompanied by clear evidence that the wildfire's emissions were transported to the location of the monitor.

[7] "Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations" (September 2016).

- Tier 2: The wildfire event's O_3 influences are higher than non-event related concentrations, and fire emissions compared to the fire's distance from the affected monitor indicate a clear causal relationship.
    - *Key Factor 1*: fire emissions and distance of fire(s) to affected monitoring site location(s). Calculated fire emissions of nitrogen oxides (NO_x) and reactive-volatile organic compounds (VOC) in tons per day (Q) divided by the distance from the fire to the monitoring site (D) should be equal to or greater than 100 tons per day/kilometers ($Q/D \geq 100$ tpd/km). The guidance document provides additional information on the calculation of Q/D.
    - *Key Factor 2*: comparison of the event-related O_3 concentration with non-event related high O_3 concentrations. The exceedance due to the exceptional event:
        - is in the 99th or higher percentile of the 5-year distribution of O_3 monitoring data, OR
        - is one of the four highest O_3 concentrations within 1 year (among those concentrations that have not already been excluded under the EER, if any).
    - In addition to the analysis required for Tier 1, the air agency should supply additional evidence to support the weight of evidence that emissions from the wildfire affected the monitored O_3 concentration.

- Tier 3: The wildfire does not fall into the specific scenarios (i.e., does not meet the key factors) that qualify for Tier 1 or Tier 2, but the clear causal relationship criterion can still be satisfied by a weight of evidence showing.
    - In addition to the analyses required for Tier 1 and Tier 2, an air agency may further support the clear causal relationship with additional evidence that the fire emissions caused the O_3 exceedance.

Not Reasonably Controllable or Preventable

The EER requires that air agencies establish that the event be both not reasonably controllable and not reasonably preventable at the time the event occurred. This requirement applies to both natural events and events caused by human activities; however, it is presumed that wildfires on wildland will satisfy both factors of the "not reasonably controllable or preventable" element unless evidence in the record clearly demonstrates otherwise.[8]

Natural Event or Event Caused by Human Activity That is Unlikely to Recur

According to the CAA and the EER, an exceptional event must be "an event caused by human activity that is unlikely to recur at a particular location *or* a natural event" (emphasis added). The 2016 EER includes in the definition of wildfire that "[a] wildfire that predominantly occurs on wildland is a natural event." Once an agency provides evidence that a wildfire on wildland occurred and demonstrates that there is a clear causal relationship between the measurement

[8] A wildfire is defined in 40 CFR 50.1(n) as "any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions, or a prescribed fire that has developed into a wildfire. A wildfire that predominantly occurs on wildland is a natural event." Wildland is defined in 40 CFR 50.1(o) as "an area in which human activity and development are essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered."

under consideration and the event, the EPA expects minimal documentation to satisfy the "human activity that is unlikely to recur at a particular location or a natural event" element. The EPA will address wildfires on other lands on a case-by-case basis.

EPA REVIEW OF EXCEPTIONAL EVENTS DEMONSTRATION

On July 8, 2016, ADEQ submitted an Initial Notification of Potential Exceptional Event for exceedances of the 2008 8-hour O_3 NAAQS that occurred at the Apache Junction, Blue Point, Falcon Field, Mesa, Pinnacle Peak, and Tonto National Monument monitoring sites within Pinal, Maricopa, and Gila counties in Arizona on June 20, 2015. [9] ADEQ submitted an updated Initial Notification on March 27, 2018.[10] On September 27, 2016, ADEQ submitted the demonstration for these exceedances.[11] After conversations with the EPA, ADEQ submitted two addenda on May 17, 2018, and March 26, 2019, to supplement the demonstration.[12]

Regulatory Significance

The EPA determined that data exclusion of the exceedances may have regulatory significance for attainment by the Moderate area attainment date for the Phoenix-Mesa, AZ nonattainment area for the 2008 8-hour O_3 NAAQS (hereafter "nonattainment area"), and worked with ADEQ to identify the relevant exceedances and monitoring sites affected.[13] Table 1 summarizes the exceedances that ADEQ included in the demonstration.

Table 1: EPA 2008 8-hour O_3 NAAQS Exceedance Summary

Exceedance Date	Monitor/Site Name	AQS ID	8-hour Avg. (ppm)
June 20, 2015	Apache Junction	04-021-3001	0.078
June 20, 2015	Blue Point	04-013-9702	0.077
June 20, 2015	Falcon Field	04-013-1010	0.080
June 20, 2015	Mesa	04-013-1003	0.079
June 20, 2015	Pinnacle Peak	04-013-2005	0.078
June 20, 2015	Tonto National Monument[14]	04-007-0010	0.079

Narrative Conceptual Model

The demonstration and addenda submitted by ADEQ provided a narrative conceptual model to describe how emissions from the Lake Fire in southeastern California caused O_3 exceedances at

[9] See email from Brad Busby, ADEQ, to Randall Chang, EPA Region 9, dated July 8, 2016.
[10] See letter from Timothy Franquist, ADEQ, to Elizabeth Adams, EPA Region 9, dated March 27, 2018.
[11] See letter from Timothy Franquist, ADEQ, to Deborah Jordan, EPA Region 9, dated September 27, 2016.
[12] See letter from Timothy Franquist, ADEQ, to Alexis Strauss, EPA Region 9, dated May 17, 2018, and letter from Timothy Franquist, ADEQ, to Mike Stoker, EPA Region 9, dated March 26, 2019.
[13] See letter from Gwen Yoshimura, EPA Region 9, to Timothy Franquist, ADEQ, dated May 8, 2018.
[14] The Tonto National Monument monitor is just outside the nonattainment area boundary. For purposes of this document, references to the nonattainment area also reference the area around and including the Tonto National Monument monitor.

the Apache Junction, Blue Point, Falcon Field, Mesa, Pinnacle Peak, and Tonto National Monument monitoring sites on June 20, 2015. The narrative conceptual model in the demonstration included characteristics of the nonattainment area and surrounding areas, such as descriptions of typical O_3 formation, the ambient O_3 monitoring network, meteorology, geography, topography, emissions, and seasonal O_3 variations.[15]

The demonstration also described event-related characteristics and included ADEQ's claims that the observed exceedances were caused by emissions from the Lake Fire in the San Bernardino National Forest in southeastern California and that these exceedances qualify as an exceptional event under the EER. The demonstration included a summary of the event, stating that the Lake Fire was a human-caused wildfire that began on June 17, 2015, and the wildfire emissions impacted the nonattainment area and surrounding area on June 20, 2015. In addition to the Lake Fire, the demonstration identified additional, smaller fires southwest of Yuma, Arizona as well as larger fires to the east and north of the nonattainment area. The demonstration stated that while fires southwest of Yuma may have contributed to O_3 and O_3 precursors transported to the nonattainment area, the emissions produced were minimal compared to those from the Lake Fire, and that emissions from the fires to the north and east were not transported to the nonattainment area and surrounding area. The demonstration included Lake Fire perimeter maps from June 17, 2015, through June 20, 2015; a map of the Lake Fire perimeter as of July 7, 2015; active wildfires on June 20, 2015, in Arizona, southeastern California and northern Mexico; and satellite imagery of smoke from the Lake Fire on June 19, 2015.[16]

The demonstration presented tables and graphs of daily 8-hour maximum O_3 concentrations between June 13 and June 27, 2015, for all O_3 monitoring sites in the nonattainment area, as well as a separate graph for the six exceeding monitors.[17] The demonstration also included a diurnal profile of O_3 for those six monitors on June 20, 2015.[18] The first addendum added diurnal profiles of O_3 from the exceeding monitors compared to the 5^{th}, 50^{th}, and 95^{th} percentile hourly O_3 concentrations for those monitors, grouped by weekdays and weekends to account for differences in anthropogenic emissions. Graphs with percentiles calculated using data from 2010 through 2015, both for the month of June alone, and from the months of May through August, were included.[19] These datasets showed hours above the 95^{th} percentile at all six monitors on June 20, 2015, with lower O_3 concentrations on the preceding day. The first addendum noted that since June 20, 2015, was a Saturday, when local emissions are lower than on weekdays and exceedances are rare and typically follow higher concentrations measured on the preceding Friday, the exceedances were indicative of transport of outside emissions.

The demonstration stated that O_3 and O_3 precursor emissions from the fire were transported west to east to the nonattainment area and that elevated O_3 was observed at the Yuma Supersite, Alamo Lake, and Grand Canyon National Park monitors on June 19, 2015. Additionally, the demonstration described elevated particulate matter with an aerodynamic diameter less than or

[15] See demonstration, p. 5-7.
[16] See demonstration, p. 8-15.
[17] Throughout this demonstration, the phrase "exceeding monitors" refers to the six monitoring sites that measured exceedances on June 20, 2015.
[18] See demonstration, p. 16-20.
[19] See first addendum, p. 3-9.

equal to a nominal 2.5 micrometers ($PM_{2.5}$) observed at Yuma Supersite and Alamo Lake on June 18 and 19, 2015, indicating smoke at these monitors.[20] The second addendum expanded the conceptual model by clarifying that fire emissions were transported to the nonattainment area via two separate pathways.[21] The "upper-air" pathway involved transport of emissions from the fire to the east and northeast at upper altitudes on June 18 and 19, 2015, resulting in elevated $PM_{2.5}$ and O_3 at the rural Alamo Lake and Grand Canyon National Park monitors, followed by mixing of the emissions to ground level in the nonattainment area on June 20, 2015. The "lower-air" pathway asserted that fire emissions were also transported from the fire southeast to Yuma and mixed down to ground level on June 18 and 19, 2015, then were transported northwest at ground level to the nonattainment area.

Based on the information described above, the demonstration with addenda submitted by ADEQ meets the narrative conceptual model criterion of the EER.

Table 2: Documentation of Narrative Conceptual Model

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
June 20, 2015	Demonstration – p. 5-20 First addendum – p. 3-9 Second addendum – p. 2-12	Sufficient	Yes

Clear Causal Relationship

The demonstration and addenda included several analyses to support a clear causal relationship between the wildfire event and the monitored exceedances.

Comparison with historical concentrations

The demonstration included a comparison with historical concentrations, as required by 40 CFR 50.14(c)(3)(iv)(C).[22] The demonstration compared the event-related O_3 concentrations with all concentrations from 2011 through 2015 measured in the months of April through October. The plots provided show that daily maximum 8-hour average O_3 concentrations on June 20, 2015, were at or above the 5-year 99th percentile value for all of the exceeding monitors except for Pinnacle Peak, which had a concentration of 0.078 parts per million (ppm), below the 99th percentile value of 0.080 ppm for the site. The Pinnacle Peak concentration was the third highest daily maximum 8-hour average O_3 concentration in 2015.

Tier 1: Key Factor

To meet the key factor for a Tier 1 analysis, exceedances should be clearly higher than other, non-event related exceedances, or occur during a time of year that typically experiences no exceedances. The event-related exceedances identified in this demonstration occurred during the regular O_3 season, during times when other exceedances similar in magnitude were measured. Therefore, the event exceedances do not meet the Tier 1 Key Factor, and additional evidence beyond a Tier 1 analysis is needed to support the clear causal relationship.

[20] See demonstration, p. 16.
[21] See second addendum, p. 2-12.
[22] See demonstration, p. 21-27.

Tier 2: Key Factors

The demonstration included an evaluation of the Tier 2 Key Factors. For Tier 2 Key Factor 1, the demonstration provided an analysis of fire emissions (Q) and distance (D) of the wildfire to the monitoring site locations.[23] Q was calculated from emissions during June 17, 18, and 19, 2015, for the Lake Fire using perimeter growth and BlueSky Playground.[24] The demonstration evaluated Q as a sum over the three-day period, and also calculated Q separately for June 18 and 19, 2015, stating that it was primarily O_3 and O_3 precursor emissions from these two days that were transported to the nonattainment area and caused the exceedances on June 20, 2015. The EPA's wildfire O_3 guidance document describes using a single day of emissions to calculate Q/D. The demonstration calculated the distance D from the Lake fire to the Mesa monitor, which is somewhat centrally located within the nonattainment area. Using these values, Q/D for June 17-19, 2015, was determined to be 54 tons of NO_x and VOC over the three days per km; Q/D was determined to be 21.6 tons per km for June 18, 2015, and 32.1 tons per km for June 19, 2015. These values are all well below the Tier 2 Key Factor 1 screening value of 100 tons per day/km. Therefore, the event exceedances do not meet Tier 2 Key Factor 1.

For Tier 2 Key Factor 2, as described previously, the demonstration included evidence that the exceedances were at or above the 99th percentile of the previous five years of O_3 season data or were among the four highest concentrations measured at the site in 2015.[25] Five of the six monitors had daily maximum 8-hour average O_3 concentrations during the event at or above the 99th percentile for the 5-year period while one monitor (Pinnacle Peak) did not. However, the event O_3 concentration at Pinnacle Peak was the third highest O_3 concentration measured at the site in 2015. Therefore, the event exceedances meet Tier 2 Key Factor 2.

Based on the analysis of the Key Factors for Tier 2, the EPA's wildfire O_3 guidance document indicates that a Tier 3 analysis is appropriate for this event. As described below, the demonstration with addenda included the required elements for a Tier 3 clear causal relationship analysis based on the EPA's wildfire O_3 guidance document. This includes evidence to support that (1) wildfire emissions were transported from the wildfire to the monitor; (2) wildfire emissions affected the monitor; and (3) wildfire emissions caused the O_3 exceedances.

Evidence of transport of wildfire emissions from the wildfire to the monitor

The demonstration presented a trajectory analysis using the HYbrid Single-Particle Lagrangian Integrated Trajectory model (HYSPLIT),[26] along with satellite imagery of smoke and National Oceanic and Atmospheric Administration (NOAA) smoke contours for light, medium, and heavy smoke.[27] The demonstration included 36-hour HYSPLIT back trajectories from the six affected monitoring sites at 100- and 1500-meter altitudes initiated at the hour of highest O_3 concentration for each monitor on June 20, 2015, overlaid on satellite photos of smoke from the Lake Fire on June 19, 2015. HYSPLIT trajectories were calculated using the Eta Data Assimilation System (EDAS) 40-kilometer resolution model on pressure surfaces. NOAA smoke contour maps were also provided for June 17 through 20, 2015. The back trajectories in the demonstration generally pointed to transport from the southwest, including areas around Yuma and further west (e.g.,

[23] See demonstration, p. 28-30.
[24] U.S. Forest Service's BlueSky Playground, available at *https://tools.airfire.org/playground/*.
[25] See demonstration, p. 21-27, 30.
[26] HYSPLIT is available on the NOAA Air Resources Laboratory website at *https://www.ready.noaa.gov/HYSPLIT.php*.
[27] See demonstration, p. 31-42, Appendix C.

Mexicali in Mexico, and Imperial County and San Diego County in California), and passed well south of the Lake Fire. The trajectories did pass through areas where smoke was visible or was indicated by the HMS smoke contours on June 19, 2015; however, the analysis did not assess at what altitude the smoke was present, and thus did not show that the trajectories transported smoke to the nonattainment area. The visible smoke and HMS contours also provided evidence that smoke was present over the nonattainment area on June 19, 2015, but did not provide evidence that the smoke was at ground level, nor that smoke was present over the nonattainment area on June 20, 2015.

The second addendum provided additional analyses to clarify transport of wildfire emissions and mechanisms for mixing to ground level along "upper-air" and "lower-air" pathways identified and described in the expanded conceptual model. To show transport patterns for both pathways, the second addendum calculated HYSPLIT trajectories using a different input dataset, the North American Mesoscale (NAM) 12-kilometer resolution model on sigma surfaces. These HYSPLIT trajectories reflect higher model spatial resolution and improved treatment of terrain features using sigma surfaces. The second addendum also evaluated transport to the nonattainment area across a range of hours, rather than a single hour of highest O_3 concentration, to assess transport of precursors.

To show transport along the "upper-air" pathway, the second addendum provided HYSPLIT 36-hour forward trajectories from the Lake Fire at 2500 meters initiated every four hours from 12:00AM until 8:00PM on June 18 and June 19, 2015.[28] The trajectories on June 18, 2015, generally showed transport from the fire at upper altitudes to the northeast and east, with earlier trajectories passing near monitors well to the north of the nonattainment area (Grand Canyon National Park and Flagstaff Middle School), and shifting further south later in the day, towards monitors to the north and northwest of the nonattainment area (Alamo Lake and Prescott College). The final two trajectories initiated on June 18, 2015, passed over the nonattainment area at times corresponding to late night on June 19, 2015, and early morning on June 20, 2015. The trajectories initiated on June 19, 2015, generally showed transport south and west of the nonattainment area. The forward trajectories initiated on both June 18 and 19, 2015, at 2500 meters generally remained near this altitude and did not descend to the boundary layer. The second addendum also provided 36-hour back trajectories at 2500 meters from the nonattainment area (Pinnacle Peak monitor) initiated every four hours from 6:00PM on June 19, 2015, until 6:00PM on June 20, 2015.[29] The trajectories initiated in the morning hours on June 20, 2015, passed near the fire in the afternoon and evening on June 18, 2015. Together, these analyses showed that emissions from the fire on June 18, 2015 were transported to and were present over the nonattainment area in the morning hours of June 20, 2015. However, in all cases the trajectories generally stayed aloft, approximately 2500 meters above the ground.

To address whether the air masses transported from the fire to the nonattainment area along the "upper air" pathway reached the ground, the second addendum also provided evidence to support mixing of air over the nonattainment area to the surface on June 20, 2015.[30] The analysis looked

[28] See second addendum, p. 6-8. All time references in the HYSPLIT analysis are in Pacific Daylight Time/Mountain Standard Time, corresponding to the local time zone for both the Lake Fire and for the nonattainment area.
[29] See second addendum, p. 6, 9.
[30] See second addendum, p. 32-36.

at National Weather Service (NWS) soundings from 5:00AM and 6:00PM on the exceedance day. The soundings show that the boundary layer over the nonattainment area was capped at approximately 1500 meters in the early morning on June 20, 2015, but grew in depth to approximately 3000 meters by 6:00PM. This provides evidence for a mechanism for air aloft at 2500 meters over the boundary layer in the morning to be mixed down to ground level during the day on June 20, 2015. The second addendum also analyzed O_3 data from a higher elevation site within the nonattainment area (Humboldt Mountain) in comparison to the exceeding monitors at lower elevations to provide further evidence of a deep boundary layer and mixing of elevated O_3 and O_3 precursors transported from the Lake Fire.

To show transport along the "lower-air" pathway, the second addendum addressed transport in two segments. First, the second addendum provided HYSPLIT 24-hour back trajectories from the Yuma Supersite monitor at 100 meters initiated every four hours from 6:00PM on June 18, 2015 until 6:00PM on June 19, 2015.[31] The Yuma Supersite monitor measured an exceedance of the 2008 O_3 NAAQS on June 19, 2015. The trajectories from 6:00AM, 10:00AM, and 2:00PM on June 19, 2015 pass south of, but near, the Lake Fire in the late evening hours on June 18, 2015. The trajectories also descended from higher altitudes (approximately 1500 meters) near the fire to ground level in Yuma, providing evidence that emissions were transported from the fire to Yuma and affected air quality in Yuma on June 19, 2015. To show the second stage of transport from Yuma to the nonattainment area, the second addendum also provided 24-hour back trajectories at 100 meters from the nonattainment area (Pinnacle Peak monitor) initiated every four hours from 6:00PM on June 19, 2015 until 6:00PM on June 20, 2015.[32] The trajectories initiated in the late night hours on June 19, 2015 and morning hours on June 20, 2015 travel back at ground-level and pass over Yuma, consistent with the timing of trajectories from Yuma showing transport from the fire. Together, the "lower-air" back trajectory analysis demonstrated the potential for transport from the Lake Fire to Yuma on June 18 and 19, 2015, and then from Yuma to the nonattainment area on June 19 and 20, 2015.

The second addendum further included analyses to demonstrate a mechanism for mixing of the aloft smoke to ground level both between Yuma and the nonattainment area, and within the nonattainment area. The first analysis looked at dew point and water vapor data and modeling.[33] The analysis included a plot of hourly dew point measurements at the Phoenix Sky Harbor International Airport within the nonattainment area, showing that dew points were below the 5th percentile at the airport in the afternoon and evening on June 19, 2015, and remained below the 50th percentile throughout June 20, 2015. A similar drop in dew point was observed in Yuma on June 19, 2015. The second addendum suggested that this indicated that extremely dry air was mixed into the nonattainment area on June 19 and 20, 2015, from aloft. To provide further evidence for this effect, the analysis also used the Weather Research and Forecasting (WRF) model to assess how the water vapor mixing ratio varied vertically with time along a transect from the fire to the nonattainment area on June 19, 2015. This analysis showed that a "tongue" of dry air aloft began descending immediately to the west of the nonattainment area around midday on June 19, 2015, at approximately the time the initial drop in dew point was observed at the airport. This "tongue" of dry air continued to become more pronounced throughout the afternoon

[31] See second addendum, p. 10-11.
[32] See second addendum, p. 10, 12.
[33] See second addendum, p. 13-31, Appendix B.

on June 19, 2015, and eventually moved towards and into the nonattainment area later on June 19, 2015. This provided a mechanism to show that aloft air on June 19, 2015, between the Lake Fire and the nonattainment area was mixed down to ground level before reaching the nonattainment area in the evening on June 19, 2015.

Overall, the trajectory analyses provided in the second addendum, along with the satellite imagery and data, water vapor and dew point analysis, and meteorological data regarding boundary layer depths in the nonattainment area on June 20, 2015, show that emissions from the Lake Fire in California were transported to the nonattainment area and the affected monitoring sites and reached ground level on June 20, 2015.

Evidence that the wildfire emissions affected the monitor

The demonstration provided maps of daily maximum 8-hour average O_3 concentrations from June 17 through June 21, 2015, showing a regional rise in O_3 concentrations across much of Arizona on June 19 and 20, 2015, suggesting that factors affecting elevated O_3 concentrations within the nonattainment area were regional in nature. The demonstration also provided O_3 diurnal profiles of the exceeding monitors on June 20, 2015, in the narrative conceptual model, but the profiles did not include any statistical information to demonstrate how these hourly concentrations compared to typical concentrations at the sites.[34] The first addendum supplemented this analysis by providing an expanded analysis of O_3 diurnal hourly concentrations at the exceeding monitors for June 19 through 21, 2015, along with 5th, 50th, and 95th historical percentile hourly concentrations for each site, based on concentrations measured in 2010 through 2015 during the month of June. Instead of calculating percentile values for each individual day of the week, the first addendum calculated percentiles for weekdays and weekends, increasing the sample size and providing a more robust calculation of the percentiles. The addendum also presented the same information compared to percentiles calculated using data from May through August of the same years to further increase sample size for the comparison.[35] Both versions of the analysis provided in the addendum showed that for all the exceeding monitors, O_3 concentrations were at or above the 95th percentile values for several hours on June 20, 2015.

The demonstration also provided an analysis of diurnal nitrogen dioxide (NO_2) concentrations. The demonstration included plots of hourly and 24-hour NO_2 concentrations from the West Phoenix monitor averaged by day of the week, using data from the month of June in 2010 through 2014. The West Phoenix monitor was selected because it is an area-wide site within the nonattainment area, and none of the sites where O_3 exceedances were measured had available NO_2 measurements. The demonstration further plotted hourly NO_2 data from June 13 through 27, 2015, against the average hourly NO_2 concentrations described above.[36] The plots showed that NO_2 was higher in the evening hours on June 19, 2015, and early morning hours on June 20, 2015, as compared to the average hourly concentrations, and hours on the days preceding and following this period were closer to the average hourly concentrations. This analysis might suggest an unusual source of NO_2 affecting the nonattainment area on June 19 and 20, 2015. However, the analysis did not provide sufficient statistical information to assess whether the

[34] See demonstration, p. 20, 45-56.
[35] See first addendum, p. 3-9.
[36] See demonstration, p. 57-58, 62-63.

elevated NO_2 was within the range of normal concentrations measured in the nonattainment area. The first addendum supplemented the NO_2 analyses by provided an expanded statistical analysis of NO_2 similar to the expanded O_3 analysis, using data from three area-wide sites (West Phoenix, Phoenix Supersite, and Central Phoenix) within the nonattainment area.[37] The elevated NO_2 concentrations noted in the demonstration on June 19 and 20, 2015, were observed across all of the area-wide sites. At the West Phoenix monitor, NO_2 concentrations exceeded the 95th percentile value for several hours overnight prior to the exceedance day. Elevated concentrations were less pronounced at the other two sites but still approached the 95th percentile value for several hours overnight prior to the exceedance day. Both the demonstration and the first addendum noted that these high NO_2 concentrations were particularly unusual for a Saturday, as anthropogenically emitted NO_2 is typically lower on weekends. Overall, the analysis further supported the conclusion that a highly unusual NO_2 source affected the nonattainment area on June 19 and 20, 2015. However, it should be noted that NO_2 is a poor tracer for fire because it is not specific to fire emissions and is emitted in large amounts by several anthropogenic sources (e.g., cars, power plants).

The demonstration also evaluated $PM_{2.5}$, which is much more commonly associated with fire emissions than NO_2, but found that $PM_{2.5}$ was not elevated within the nonattainment area prior to or during the exceedance day. The demonstration plotted hourly $PM_{2.5}$ concentrations for the Yuma Supersite and Alamo Lake monitors for June 17 through 21, 2015, and stated that $PM_{2.5}$ was elevated at these monitors during this period due to the Lake Fire.[38] However, the plots did not provide any statistical information to compare the concentrations to typical concentrations at these monitors, and it was unclear whether the peaks noted on the plot were associated with transport from the wildfire. For example, the highest concentrations observed during this period at the Yuma Supersite monitor were observed in the evening on June 17 through early morning on June 18, 2015, prior to when the earliest emissions from the Lake Fire could have been transported to Yuma.

To address the lack of elevated $PM_{2.5}$ observed in the nonattainment area, the demonstration and first addendum examined speciation data from the Chemical Speciation Network (CSN) available at the Phoenix Supersite monitoring site for elemental carbon (EC) and organic carbon (OC). The demonstration presented the sum of EC and OC concentrations and the percentage of the total $PM_{2.5}$ concentration present as EC and OC for every CSN sample day between June 11, 2015 and June 29, 2015.[39] This analysis showed that the total EC and OC and percentage of total $PM_{2.5}$ present as EC and OC was highest on June 20, 2015, as compared to the six other sample days in the analysis. However, the analysis did not provide any statistical information to demonstrate how these values compared to typical values at the site. The analysis also looked at the sum of EC and OC rather than the individual components or ratio; biomass smoke is generally associated with a high OC component and relatively low EC/OC fraction, rather than a high total concentration of both EC and OC. The first addendum supplemented the original analysis by including a comparison of total OC, OC/$PM_{2.5}$, EC, EC/$PM_{2.5}$, and EC/OC on the exceedance day in comparison to all samples from 2010 through 2015 collected during the

[37] See first addendum, p. 17-20.
[38] See demonstration, p. 57, 59-60.
[39] See demonstration, p. 57, 61.

month of June, as well as those collected in the months of May through August.[40] The analysis also provided percentile values for comparison. For both versions of the analysis, the exceedance day OC concentration was above the 95th percentile value, and the OC/$PM_{2.5}$ ratio was near the 95th percentile, suggesting a higher than usual contribution of OC. The exceedance day EC concentration was between the 50th and 95th percentile and the ratio of EC/$PM_{2.5}$ was near the 50th percentile, suggesting an approximately typical contribution of EC. The percentile of EC/OC was between the 5th and 50th percentile, further supporting that OC was elevated relative to EC. The EC and OC analysis provides some support that wildfire emissions were present in the nonattainment area.

Overall, the lack of elevated $PM_{2.5}$ in the nonattainment area raises questions about the extent to which wildfire emissions reached the ground and affected the monitor. However, the supplemental analyses showing elevated OC and relatively low EC/OC concentrations, and unusually elevated NO_2 and O_3 concentrations observed on a Saturday, along with the robust analysis of transport and mixing mechanisms described earlier in this document, ultimately support the conclusion that wildfire emissions reached the ground and affected measurements at the exceeding monitors on June 20, 2015.

Additional evidence that the wildfire emissions caused the O_3 exceedance

The demonstration and addenda provided additional evidence to support that the wildfire emissions caused the O_3 exceedances observed on June 20, 2015. The demonstration included a multivariable regression analysis using several meteorological parameters in an effort to show that O_3 concentrations at the monitoring sites were elevated above expected concentrations.[41] While the regression-predicted O_3 concentrations at the exceeding monitors were all lower than the observed O_3 concentrations, possibly suggesting an unexpected source contribution to the observed concentrations, these differences did not meet the metrics described in the EPA's wildfire O_3 guidance for statistical models, and the regression model appeared to consistently underpredict O_3 at high concentrations, including for non-event exceedances.

The first addendum added a matching day analysis, which included three evaluations: first, an examination of days in 2010 through 2015 during the month of June with similar meteorological conditions to June 20, 2015;[42] second, an examination of the conditions of all exceedance days in 2010 through 2015 during the month of June in comparison to June 20, 2015;[43] and third, a discussion of the characteristics of June 20, 2015, as a rare Saturday exceedance.[44]

The analysis for days with similar meteorological conditions identified ten matching days based on resultant wind directions, resultant wind speed, average wind speed, average temperature, maximum and minimum temperatures, and the exclusion of days with significant weather events (e.g., large dust storms, heavy rain). Of the ten matching days selected, eight of the days did not record exceedances of the 2008 O_3 NAAQS at any of the monitors that exceeded on June 20, 2015, and several of those days measured concentrations across the network that were well below the NAAQS. One of the remaining days (June 1, 2012) measured an exceedance at only

[40] See first addendum, p. 10-16.
[41] See demonstration, p. 65-68, Appendix D.
[42] See first addendum, p. 21-23.
[43] See first addendum, p. 24-25.
[44] See first addendum, p. 26-28.

one of the six monitors that exceeded on June 20, 2015 (Tonto National Monument); the other day (June 9, 2014) measured exceedances at four of the six monitors. These two exceedance days occurred on weekdays, which generally have higher O_3 precursor emissions, and followed exceedances that occurred on the prior day. In contrast, the June 20, 2015 exceedance was measured on a Saturday and did not follow a prior exceedance. Overall, the first addendum concluded that the first matching day analysis showed that the O_3 concentrations on June 20, 2015, were unusual compared to days with similar meteorology, which generally did not result in exceedances of the 8-hour 2008 O_3 NAAQS on days with the same emission characteristics as the June 20, 2015 exceedance.

The analysis of monitored non-event exceedance days identified 22 other exceedance days, besides the event day, that occurred in 2010 through 2015 during the month of June where exceedances of the 2008 O_3 NAAQS occurred at one or more of the six monitors that exceeded on June 20, 2015. Many of these exceedance days measured exceedances at only one or two of the six monitors that exceeded on June 20, 2015. The analysis further analyzed three of the exceedances. The first exceedance was June 9, 2014, which was identified as the most similar exceedance to June 20, 2015. This day was identified by the first matching day analysis as having similar meteorology to June 20, 2015, experienced exceedances at four of the same six monitors, and the magnitude of the exceedances were comparable. As previously discussed, however, June 9, 2014, differed from June 20, 2015, in that it was part of a multi-day event (June 5, 2014, through June 9, 2014) during which stagnant air conditions allowed O_3 to build up in the nonattainment area, and it occurred on a weekday. The analysis also further analyzed June 1, 2013, and June 7, 2014, which were both Saturday exceedances, similar to the event day. These were the only other Saturday exceedances during the month of June over the six year period. However, both of these exceedance days were characterized by higher exceedances on the day prior (Friday), unlike the event day, indicating that the June 20, 2015 exceedance was unique.

The third analysis examined O_3 exceedance days for the six monitors that exceeded on June 20, 2015, by exceeding monitor and day of week from the O_3 season (April through October) over a six-year period (2010 through 2015), excluding the event day. The analysis indicated that Saturdays accounted for only 7% of the exceedances measured for the entire six-year period and 9% of exceedances during the month of June. Saturdays had the second least percentage of exceedances (the least was Sunday). For three of the monitors that exceeded on June 20, 2015 (Apache Junction, Blue Point, and Tonto National Monument), no other Saturday exceedances were measured during the six-year period. Falcon Field experienced one Saturday exceedance (out of eleven total), Mesa experienced two (out of 15 total), and Pinnacle Peak experienced three (out of 28 total). This analysis shows that Saturday exceedances are rare, particularly for some of the monitors that exceeded on June 20, 2015, and points to a unique emissions source contributing to exceedances.

The analyses included in the demonstration and addenda, specifically, the comparison with historical hourly and daily maximum 8-hour O_3 concentrations; updated HYSPLIT analyses, satellite imagery and data, water vapor and dew point analysis, and meteorological data regarding boundary layer depths in the nonattainment area on June 20, 2015; elevated OC and relatively low EC/OC concentrations, and unusually elevated NO_2 and O_3 concentrations observed on a Saturday; and three matching day analyses demonstrating the unusual nature of the

event, sufficiently demonstrate a clear causal relationship between the emissions generated by the Lake Fire in the San Bernardino National Forest in southeastern California and the exceedances measured at the Apache Junction, Blue Point, Falcon Field, Mesa, Pinnacle Peak, and Tonto National Monument monitoring sites.

Table 3: Documentation of Clear Causal Relationship

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
June 20, 2015	Demonstration – p. 21-68 First addendum – p. 3-28 Second addendum – p. 6-36, Appendix B	Sufficient	Yes

Not Reasonably Controllable or Preventable

The EER presumes that wildfire events on wildland are not generally reasonable to control or prevent. The demonstration provided evidence that the wildfire event meets definition of a wildfire. Specifically, the demonstration includes evidence that the Lake Fire was a wildfire on wildland, and further, occurred outside of Arizona. Therefore, the documentation provided sufficiently demonstrates that the event was not reasonably controllable and not reasonably preventable.

Table 4: Documentation of Not Reasonably Controllable or Preventable

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
June 20, 2015	Demonstration – p. 8-13, 69	Sufficient	Yes

Natural Event

The definition of "wildfire" at 40 CFR 50.1(n) states, "A wildfire that predominantly occurs on wildland is a natural event." The demonstration includes documentation that the event meets the definition of a wildfire and occurred predominantly on wildland, and has therefore shown that the event was a natural event.

Table 5: Documentation of Natural Event

Exceedance Date	Demonstration Citation	Quality of Evidence	Criterion Met?
June 20, 2015	Demonstration – p. 8-13, 69	Sufficient	Yes

Schedule and Procedural Requirements

In addition to technical demonstration requirements, 40 CFR 50.14(c) and 40 CFR 51.930 specify schedule and procedural requirements an air agency must follow to request data exclusion. Table 6 outlines the EPA's evaluation of these requirements.

Table 6: Schedules and Procedural Criteria

	Reference	Demonstration Citation	Criterion Met?
Did the agency provide prompt public notification of the event?	40 CFR 50.14 (c)(1)(i)	Demonstration: p. 3, Appendix A	Yes
Did the agency submit an Initial Notification of Potential Exceptional Event and flag the affected data in the EPA's Air Quality System (AQS)?	40 CFR 50.14 (c)(2)(i)	Demonstration: p. 3-4, Appendix F	Yes
Did the initial notification and demonstration submittals meet the deadlines for data influenced by exceptional events for use in initial area designations, if applicable? Or the deadlines established by the EPA during the Initial Notification of Potential Exceptional Events process, if applicable?	40 CFR 50.14 Table 2 40 CFR 50.14 (c)(2)(i)(B)	NA	NA
Was the public comment process followed and documented? • Did the agency document that the comment period was open for a minimum of 30 days? • Did the agency submit to the EPA any public comments received? • Did the state address comments disputing or contradicting factual evidence provided in the demonstration?	40 CFR 50.14 (c)(3)(v)	Demonstration: p. 4, Appendix E First addendum: p. 2, Appendix B; July 17, 2018 Letter[45] Second addendum: p. 1, Appendix C; April 26, 2019 Letter[46]	Yes
Has the agency met requirements regarding submission of a mitigation plan, if applicable?	40 CFR 51.930 (b)	NA	NA

Conclusion

The EPA has reviewed the documentation provided by ADEQ to support claims that smoke from wildfires in the San Bernardino National Forest caused exceedances of the 2008 8-hour O_3 NAAQS at the Apache Junction, Blue Point, Falcon Field, Mesa, Pinnacle Peak, and Tonto National Monument monitoring sites on June 20, 2015. The EPA has determined that the flagged exceedances at these monitoring sites on this day satisfy the exceptional event criteria: the event was a natural event, which affected air quality in such a way that there exists a clear causal relationship between the event and the monitored exceedances, and was not reasonably controllable or preventable. The EPA has also determined that ADEQ has satisfied the procedural requirements for data exclusion.

[45] See letter from Timothy Franquist, ADEQ, to Michael Stoker, EPA Region 9, dated July 17, 2018.
[46] See letter from Timothy Franquist, ADEQ, to Michael Stoker, EPA Region 9, dated April 26, 2019.

Dated: April 4, 2019.

Deborah Jordan,

Acting Regional Administrator, Region IX.

[FR Doc. 2019–08308 Filed 4–24–19; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R09–OAR–2019–0068; FRL–9992–70–Region 9]

Determination of Attainment by the Attainment Date; 2006 24-Hour Fine Particulate Matter National Ambient Air Quality Standard; Pinal County, Arizona

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to determine that the West Central Pinal County nonattainment area attained the 2006 24-hour national ambient air quality standard (NAAQS) for particulate matter with a diameter of 2.5 micrometers or smaller ($PM_{2.5}$ or "fine particulate matter") by December 31, 2017, the statutory attainment date for the area. The proposal is based on the three-year average of annual 98th percentile 24-hour concentrations for the 2015–2017 period, using complete, quality-assured, and certified $PM_{2.5}$ monitoring data.

DATES: Written comments must arrive on or before May 28, 2019.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R09–OAR–2019–0068 at *https://www.regulations.gov.* For comments submitted at *Regulations.gov,* follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov.* The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

FOR FURTHER INFORMATION CONTACT: Jerry Wamsley, EPA Region IX, (415) 947–4111, *wamsley.jerry@epa.gov.*

SUPPLEMENTARY INFORMATION: Throughout this document, "we," "us" and "our" refer to the EPA.

Table of Contents

I. Background and Regulatory Context
II. Criteria for Determining That an Area Has Attained the 2006 24-Hour $PM_{2.5}$ NAAQS
III. The EPA's Proposed Action and Associated Rationale
A. Data Completeness, Network Review, and Certification of Data
B. State and Local Air Monitoring Stations Site Replacement
C. Determination of Attainment
IV. Summary of Our Proposed Action
V. Statutory and Executive Order Reviews

I. Background and Regulatory Context

This proposed action is related to the ongoing efforts of states and the EPA to implement the $PM_{2.5}$ NAAQS. Since the EPA's initial promulgation of the NAAQS to address fine particulate matter, there have been significant rulemaking and litigation developments that affect these ongoing efforts. To clarify the proper application of the statutory and regulatory requirements to this action, the EPA is providing a detailed explanation of $PM_{2.5}$ implementation efforts, nationally and in West Central Pinal County, Arizona.

On July 18, 1997, the EPA established the first NAAQS for $PM_{2.5}$ ("the 1997 $PM_{2.5}$ Standards"), including an annual standard of 15.0 micrograms per cubic meter ($\mu g/m^3$) based on a three-year average of annual mean $PM_{2.5}$ concentrations, and a 24-hour (or daily) standard of 65 $\mu g/m^3$ based on a three-year average of the 98th percentile of 24-hour concentrations.[1] The EPA established the 1997 $PM_{2.5}$ Standards based on significant evidence and numerous health studies demonstrating the serious health effects associated with exposures to $PM_{2.5}$. To provide guidance on the Clean Air Act (CAA) requirements for state and tribal implementation plans to implement the 1997 $PM_{2.5}$ Standards, the EPA promulgated the "Final Clean Air Fine Particle Implementation Rule" in October 2007 (hereinafter, the "2007 $PM_{2.5}$ Implementation Rule").[2] The Natural Resources Defense Council (NRDC) subsequently filed a petition for review challenging certain aspects of this rule.

On October 17, 2006, the EPA strengthened the 24-hour $PM_{2.5}$ NAAQS by revising it to 35 $\mu g/m^3$ and retained the level of the annual $PM_{2.5}$ standard at 15.0 $\mu g/m^3$.[3] Following promulgation of a new or revised NAAQS, the EPA is required by the CAA to promulgate designations for areas throughout the U.S. in accordance with section 107(d)(1) of the CAA. On November 13, 2009, the EPA designated 31 areas across the U.S. with respect to the revised 2006 24-hour $PM_{2.5}$ NAAQS, requiring states to prepare and submit attainment plans to meet those NAAQS.[4] At the time of the 2009 designations, the states and the EPA were operating under the interpretations of the CAA set forth in the 2007 $PM_{2.5}$ Implementation Rule, which covered issues such as the timing of attainment plan submissions, the content of attainment plan submissions, and the relevant attainment dates. The EPA deferred making a $PM_{2.5}$ designation for Pinal County, Arizona in its November 13, 2009 designations action.

On February 3, 2011, the EPA designated a portion of state lands in Pinal County, Arizona ("West Central Pinal County") as nonattainment for the 2006 $PM_{2.5}$ NAAQS based on 2006–2008 data.[5] For more information on our designation of West Central Pinal County, see the February 3, 2011 final rule.[6] On October 26, 2012, the EPA designated nearby areas of Indian country of the Ak-Chin Indian Community and the Gila River Indian Community, which lie within the 2009 deferred area, as "unclassifiable/attainment" for the 2006 $PM_{2.5}$ NAAQS based on improved air quality.[7] These areas of Indian country are not addressed in this proposal.

On March 2, 2012, the EPA issued its "Implementation Guidance for the 2006 24-Hour Fine Particle ($PM_{2.5}$) National Ambient Air Quality Standards" to provide guidance to states on the development of attainment plans to demonstrate attainment with the 2006 24-hour $PM_{2.5}$ NAAQS ("March 2012 Implementation Guidance").[8] This

[1] 62 FR 38652 (July 18, 1997).

[2] 72 FR 20586 (April 25, 2007).

[3] 71 FR 61144 (October 17, 2006).

[4] 74 FR 58688 (November 13, 2009).

[5] 76 FR 6056 (February 3, 2011).

[6] The boundaries for the West Central Pinal County nonattainment area are described in 40 CFR 81.303.

[7] 77 FR 65310 (October 26, 2012).

[8] Memorandum dated March 2, 2012, from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to EPA Regional Air Directors, Regions I–X, "Implementation Guidance for the 2006 24-Hour Fine Particle ($PM_{2.5}$) National

guidance largely instructed states to rely on the 2007 $PM_{2.5}$ Implementation Rule in developing plans to demonstrate attainment of the 2006 24-hour $PM_{2.5}$ NAAQS. The EPA based the 2007 $PM_{2.5}$ Implementation Rule on the requirements of subpart 1, part D of title I of the CAA ("subpart 1").

On January 4, 2013, the U.S. Court of Appeals for the D.C. Circuit issued its decision regarding the NRDC's legal challenge to the EPA's 2007 $PM_{2.5}$ Implementation Rule.[9] In *NRDC* v. *EPA*, the court held that the EPA erred in implementing the 1997 $PM_{2.5}$ NAAQS pursuant only to the general implementation requirements of subpart 1, rather than also to the implementation requirements specific to coarse particulate matter (PM_{10}) in subpart 4, part D of title I of the CAA ("subpart 4"). The court reasoned that the plain meaning of the CAA requires implementation of the 1997 $PM_{2.5}$ NAAQS under subpart 4 because $PM_{2.5}$ falls within the statutory definition of PM_{10}; consequently, implementation of the $PM_{2.5}$ NAAQS is subject to the same statutory requirements as the PM_{10} NAAQS. The court remanded the rule and instructed the EPA "to repromulgate these rules pursuant to Subpart 4 consistent with this opinion." [10]

Given the result of the *NRDC* v. *EPA* decision, the EPA withdrew its March 2012 Implementation Guidance for implementation of the 2006 24-hour $PM_{2.5}$ NAAQS. When withdrawing this guidance, the EPA advised states that the statutory requirements of subpart 4 apply to attainment plans for these NAAQS and reminded states about pre-existing EPA guidance regarding subpart 4 requirements. One practical consequence of the application of subpart 4 to states with areas designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS is that the applicable statutory attainment date is governed by CAA section 188(c), which states that for areas classified as Moderate, the statutory attainment date is "as expeditiously as practicable, but no later than the end of the sixth calendar year after the area's designation as nonattainment."

Consistent with the *NRDC* v. *EPA* decision, the EPA published a final rule on June 2, 2014, classifying all areas that were designated nonattainment for the 1997 and/or 2006 $PM_{2.5}$ standards at the time as Moderate under subpart 4.[11] The EPA also established a due date of December 31, 2014, for states to submit state implementation plan (SIP) revisions related to attainment and nonattainment new source review required for these areas pursuant to subpart 4. This rulemaking did not affect the statutory attainment dates imposed in subpart 4 and merely provided states with the opportunity to update or revise any prior attainment plan submissions, if necessary, to meet subpart 4 requirements considering the 2013 court decision. This rulemaking did not affect any action that the EPA had previously taken under CAA section 110(k) on a SIP for a $PM_{2.5}$ nonattainment area.

On September 4, 2013, EPA issued a clean data determination for the West Central Pinal County 2006 24-hour $PM_{2.5}$ nonattainment area based on three years of complete, quality-assured, and certified data for the 2010–2012 time frame.[12] The EPA's clean data determination suspended certain CAA requirements for the West Central Pinal County nonattainment area for so long as the area continues to attain the 2006 $PM_{2.5}$ NAAQS, including requirements to submit an attainment demonstration pursuant to section 189(a)(1)(B), the reasonably available control measure (RACM) provisions of section 189(a)(1)(C), the reasonable further progress (RFP) provisions of section 189(c), and related attainment demonstration, RACM, RFP and contingency measure provisions requirements of subpart 1, section 172.[13]

For an area classified as Moderate under the CAA, section 188(c) states that the statutory attainment date is "as expeditiously as practicable, but no later than the end of the sixth calendar year after the area's designation as nonattainment." Therefore, the applicable attainment date for West Central Pinal County, designated nonattainment in 2011 and classified as Moderate in 2014, was December 31, 2017.[14] CAA section 188(b)(2) requires the EPA to determine whether any $PM_{2.5}$ nonattainment area classified as Moderate attained the relevant $PM_{2.5}$ NAAQS by the area's attainment date and requires the EPA to make such a determination within six months after that date. If that Moderate area has not attained the NAAQS by the relevant attainment date, then the CAA requires this area be reclassified to Serious. The 2006 24-hour $PM_{2.5}$ NAAQS is met when the 24-hour $PM_{2.5}$ design value at each eligible monitoring site is less than or equal to 35 $\mu g/m^3$, as explained further in Section II of this proposal.[15]

II. Criteria for Determining That an Area Has Attained the 2006 24-Hour $PM_{2.5}$ NAAQS

Under 40 CFR part 50, section 50.13 and in accordance with Appendix N, a nonattainment area meets the 2006 24-hour $PM_{2.5}$ NAAQS when the area's design value is less than or equal to 35 $\mu g/m^3$, based on the rounding convention in 40 CFR part 50, Appendix N, at each eligible monitoring site within the area. Our determination of whether an area's air quality meets the 2006 24-hour $PM_{2.5}$ NAAQS is generally based upon three years of complete, quality-assured data gathered at established state and local air monitoring stations (SLAMS) in a nonattainment area and entered into the EPA's Air Quality System (AQS) database.[16] Ambient air quality data must meet data completeness or substitution requirements for each year under consideration. The completeness requirements are met when at least 75 percent of the scheduled sampling days for each quarter have valid data.[17] Data from ambient air monitors operated by state or local agencies in compliance with the EPA monitoring requirements must be submitted to AQS. Monitoring agencies certify annually that these data are accurate to the best of their knowledge. Accordingly, the EPA relies primarily on data in AQS when determining the attainment status of areas.

III. The EPA's Proposed Action and Associated Rationale

The EPA's proposal is pursuant to the Agency's statutory obligation, under CAA section 188(b)(2), to determine whether the West Central Pinal County nonattainment area has attained the 2006 24-hour $PM_{2.5}$ NAAQS by December 31, 2017. As discussed above in Section II, a nonattainment area must meet several criteria concerning its ambient data if the nonattainment area is to be determined as meeting the 2006

Ambient Air Quality Standards." This guidance was withdrawn June 6, 2013.

[9] *NRDC* v. *EPA*, 706 F. 3d 428 (D.C. Cir. 2013).

[10] Id. at 437.

[11] 79 FR 31566 (June 2, 2014).

[12] 78 FR 54394 (September 4, 2013).

[13] For a discussion of the Clean Data Determination for West Central Pinal County and our clean data policy as applied at that time, see our proposed rulemaking at 78 FR 41901 (July 12, 2013).

[14] 79 FR 31566, 31569, fn 5.

[15] An area's highest design value for the 24-hour $PM_{2.5}$ NAAQS is the highest of the three-year average of annual 98th percentile 24-hour average $PM_{2.5}$ mass concentration values recorded at each eligible monitoring site. See definition of "Design values" in 40 CFR part 50, Appendix N, 1.0(c).

[16] Because we are determining attainment of the $PM_{2.5}$ NAAQS as of December 31, 2017, in this proposal, the applicable 3-year data review period is 2015–2017. AQS is the EPA's national repository of ambient air quality data.

[17] 40 CFR part 50, Appendix N, section 4.2(b).

24-hour $PM_{2.5}$ NAAQS. These criteria include complete, quality-assured and certified data collected from a valid ambient air quality monitoring network and a design value calculated from the ambient data to be less than the applicable NAAQS. Our proposed action and rationale for our proposal are described below.

A. Data Completeness, Network Review, and Certification of Data

In accordance with 40 CFR part 50, Appendix N, a finding of attainment of the 2006 24-hour $PM_{2.5}$ NAAQS must generally be based upon complete, quality-assured data gathered at eligible monitoring sites in the nonattainment area and entered in the AQS. For the 24-hour $PM_{2.5}$ standards, Appendix N defines eligible monitoring sites as those that meet the technical requirements in 40 CFR 58.11 and 58.30. All data are reviewed to determine the area's air quality status in accordance with 40 CFR 50, Appendix N.[18]

The $PM_{2.5}$ ambient air quality monitoring data collected within the West Central Pinal County nonattainment area for the 2015–2017 three-year period must meet data completeness or substitution criteria according to 40 CFR part 50, Appendix N. The ambient air quality monitoring data completeness requirements are met when quarterly data capture rates for all four quarters in a calendar year are at least 75 percent. For the purposes of this proposal, we reviewed the data for the 2015–2017 period for completeness and determined that the $PM_{2.5}$ data collected by Pinal County met the completeness criterion for all 12 quarters at $PM_{2.5}$ monitoring sites in the West Central Pinal County nonattainment area.

The EPA's determination as to whether an area has attained the $PM_{2.5}$ NAAQS pursuant to CAA section 188(b)(2) is based on monitored ambient air quality data. The validity of this determination of attainment depends in part on whether the monitoring network adequately measures ambient $PM_{2.5}$ levels in the nonattainment area. Pinal County, Arizona, is the governmental agency with the authority and responsibilities under the State's laws for collecting ambient air quality data for the West Central Pinal County nonattainment area. Pinal County submits annual monitoring network plans to the EPA. These plans discuss the status of the air monitoring network, as required under 40 CFR part 58. The EPA reviews these annual network plans for compliance with the applicable reporting requirements in 40 CFR 58.10. With respect to $PM_{2.5}$, we have found that the annual network plans submitted by Pinal County meet the applicable requirements under 40 CFR part 58.[19] Furthermore, we concluded in our "Technical Systems Audit Report" of Pinal County's ambient air quality monitoring program that the ambient air monitoring network currently meets or exceeds the requirements for the minimum number of monitoring sites designated as SLAMS for $PM_{2.5}$ in the West Central Pinal County nonattainment area.[20] Pinal County certifies annually that the data it submits to AQS are quality-assured and has done so for each year relevant to our determination of attainment, 2015–2017.[21]

B. State and Local Air Monitoring Stations Site Replacement

In January 2016, Pinal County relocated the $PM_{2.5}$ SLAMS monitoring site operating at the Cowtown location and began operating a new $PM_{2.5}$ SLAMS monitoring site at the Hidden Valley location.[22] Beginning in late 2013, Pinal County and the EPA engaged in a cooperative multi-year process to review alternative locations and relocate the Cowtown $PM_{2.5}$ SLAMS monitoring site. Over the course of 2014 and 2015, Pinal County operated temporary monitors at two other potential monitoring site locations (*i.e.*, Hidden Valley; and White and Parker). This allowed Pinal County and the EPA to assess the data from each location and to determine if either of the proposed monitoring site locations met the applicable system modification requirements in 40 CFR part 58.14 for monitoring site relocation. Based on an assessment of $PM_{2.5}$ concentrations, land use, and nearby sources, the EPA approved the relocation of the Cowtown $PM_{2.5}$ SLAMS monitoring site to the new Hidden Valley location. Specifically, the EPA found that the Hidden Valley location provided the most similar concentrations from similar sources to the Cowtown monitoring site, thus meeting the requirement that a new location is, in fact, a nearby location with the same scale of representation. As noted in the EPA's approval, the data from the old and new monitoring site locations will be combined to form one continuous data record for design value calculations.[23] Consequently, the 2015–2017 design value is a composite data record consisting of 2015 data from the Cowtown monitoring site and 2016 and 2017 data from the Hidden Valley monitoring site.

C. Determination of Attainment

The EPA's evaluation of whether the West Central Pinal County nonattainment area has met the 2006 $PM_{2.5}$ 24-hour NAAQS is based on our review of the monitoring data, the adequacy of the $PM_{2.5}$ monitoring network in the nonattainment area, and the reliability of the data collected by the network, as discussed previously. Table 1 shows the annual 98th percentile concentrations for the years 2015–2017.[24] The design value for the 2015–2017 period is calculated as the average of the annual 98th percentiles for each of the three years according to 40 CFR 50, Appendix N, section 4.5. Table 1 shows the calculated 24-hour $PM_{2.5}$ design value for the Cowtown and Hidden Valley monitoring sites within the West Central Pinal County nonattainment area for the 2015–2017 period. The data show that the 24-hour design value for the 2015–2017 period, 32 $\mu g/m^3$, was equal to or less than 35 $\mu g/m^3$, the 2006 $PM_{2.5}$ 24-hour NAAQS. Thus, the EPA proposes to determine, based upon three years of complete, quality-assured and certified data from 2015–2017, that the West Central Pinal County nonattainment area has attained the 2006 24-hour $PM_{2.5}$ NAAQS by the applicable attainment date.

[18] For detailed descriptions of the EPA's data and monitoring requirements refer to 40 CFR 50.13; 40 CFR part 50, Appendix L; 40 CFR part 53; 40 CFR part 58, and 40 CFR part 58, appendices A, C, D, and E.

[19] We have included in our docket the correspondence transmitting our annual network reviews, *e.g.*, correspondence dated October 30, 2017, from Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX, to Michael Sundblom, Director, Pinal County Air Quality Control District.

[20] We have included in our docket the correspondence concerning our audits, *e.g.*, correspondence dated September 28, 2016, from Elizabeth Adams, Division Director, Air Division, EPA Region IX, to Michael Sundblom, Director, Pinal County Air Quality Control District.

[21] We have included in our docket Pinal County's annual data certifications for 2015, 2016 and 2017, *e.g.*, correspondence dated April 30, 2018, from Josh DeZeeuw, Air Quality Manager, Pinal County Air Quality Control District, to Elizabeth Adams, Division Director, Air Division, EPA Region IX. Annual data certification requirements can be found at 40 CFR 58.15.

[22] The site identification numbers are as follows: Cowtown (AQS ID: 04–021–3013); and, Hidden Valley (AQS ID: 04–021–3015).

[23] For a complete discussion of the EPA's review and approval of the Cowtown monitoring site relocation, refer to correspondence dated October 22, 2015, from Meredith Kurpius, EPA Region IX, to Michael Sundblom, Pinal County Air Quality Control District, in the docket for this proposed rulemaking.

[24] AQS, Combined Site Sample Values Report, dated March 28, 2019, in the docket for this proposed rulemaking.

TABLE 1—WEST CENTRAL PINAL COUNTY NONATTAINMENT AREA DESIGN VALUE FOR THE 2006 $PM_{2.5}$ 24-HOUR NAAQS WITH ANNUAL 98TH PERCENTILE CONCENTRATIONS

[μg/m³]

Monitor	AQS Site ID No.	98th percentile			2015–2017 design value
		2015	2016	2017	
Cowtown	04–021–3013	22.6			32
Hidden Valley	04–021–3015		34.0	38.2	

Source: AQS, Combined Site Sample Values Report, dated March 28, 2019.

IV. Summary of Our Proposed Action

Today, in accordance with section 188(b)(2) of the CAA, the EPA is proposing to determine that the West Central Pinal County Moderate nonattainment area attained the 2006 24-hour $PM_{2.5}$ NAAQS by its applicable attainment date, December 31, 2017. Our determination of attainment is based on complete, quality-assured and certified $PM_{2.5}$ monitoring data for the appropriate three-year period, 2015–2017. We are soliciting comments on this proposed determination of attainment by the attainment date.

If our proposal is finalized as proposed, West Central Pinal County will remain a Moderate nonattainment area and will not be reclassified to a Serious nonattainment area. A final rule determining that West Central Pinal County attained the 2006 24-hour $PM_{2.5}$ NAAQS by its applicable attainment date would not, however, constitute a redesignation of the area to attainment. States are required to meet several additional statutory requirements before the EPA can redesignate a nonattainment area to attainment of a NAAQS, including the EPA's approval of a state implementation plan demonstrating maintenance of the NAAQS for ten years after redesignation. The EPA is committed to working with states that submit redesignation requests for the 2006 24-hour $PM_{2.5}$ NAAQS. Our proposal today only addresses our statutory obligation to determine if the West Central Pinal County nonattainment area has attained the 2006 24-hour $PM_{2.5}$ NAAQS by its applicable attainment date, December 31, 2017.

V. Statutory and Executive Order Reviews

This action proposes to determine that the West Central Pinal County has met the 2006 24-hour $PM_{2.5}$ NAAQS as a statement of fact according to regulations and requirements discussed in the proposal. For that reason, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because this action is not significant under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed determination is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed determination does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Nitrogen dioxides, Fine particulate matter, Ammonia, Sulfur dioxides, Volatile organic compounds, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: April 15, 2019.

Deborah Jordan,

Acting Regional Administrator, Region IX.

[FR Doc. 2019–08309 Filed 4–24–19; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 0, 1, 51, 61, 63, and 69

[WC Docket Nos. 18–141, 17–144, 16–143, 05–25, and RM–10593; DA 19–281]

Wireline Competition Bureau Seeks Focused Additional Comment in Business Data Services and USTelecom Forbearance Petition Proceedings and Reopens Secure Data Enclave

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Wireline Competition Bureau reopens the secure data enclave, supplements the record in the business data services (BDS) and USTelecom proceedings with additional tables and information placed in the secure data enclave, and seeks focused comment on whether the additional data informs the extent of competition for transport.

DATES: Comments are due May 9, 2019 and reply comments are due May 16, 2019.

ADDRESSES: Participants in the price cap BDS proceedings previously authorized to access the secure data enclave

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
1	Phased-In Emission Test Cutpoints	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
2	Enhanced Emission Testing of Constant Four-Wheel Drive Vehicles	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
3	One-Time Waiver from Vehicle Emissions Test	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
4	Increased Waiver Repair Limit Options	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
5	Gross Polluter Option for I/M Program Waivers	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
6	Catalytic Converter Replacement Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
7	Vehicle Repair Grant Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
8	Voluntary Vehicle Repair and Retrofit Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
9	Tougher Enforcement of Vehicle Registration and Emissions Test Compliance	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
10	Random Roadside Testing of Diesel Vehicles	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
11	Snap Acceleration Test for Heavy-Duty Diesel	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
12	Require Pre-1988 Heavy-Duty Diesel Commercial Vehicles Registered in the Nonattainment Area to Meet 1988 Federal Emissions Standards; Provide Incentives to Encourage Voluntary Accelerated Vehicle Replacement by the Year 2004	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
13	Long-Term Fuel Reformulation: From and After May 1, 1999	Onroad/Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
14	Limit Sulfur Content of Diesel Fuel Oil to 500 ppm	Onroad/Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
15	Diesel Fuel Sampling and Reporting	Onroad/Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
16	Alternative Fuel Vehicles for Local Governments, School Districts and Federal Government/Low Emission Vehicle Requirements	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
17	Alternative Fuel Vehicles for State Government/Low Emission Vehicle Requirements	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
18	Alternative Fuel Vehicle and Equipment Tax Incentives/Low Emission Vehicle Requirements	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
19	Public Awareness Program for Alternative Fuels	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
20	National Low Emission Vehicle Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
21	Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
22	Oxidation Catalyst for Heavy Duty Diesel Vehicles	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
23	Mass Transit Alternatives	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
24	Develop Intelligent Transportation Systems	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
25	Special Event Controls-Required Implementation from List of Approved Strategies	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
26	Voluntary Lawn Mower Emission Reduction Program	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
27	Off-Road Vehicle and Engine Standards	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
28	Encourage the Use of Temporary Electrical Power Lines Rather than Portable Generators at Construction Sites	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
29	Defer Emissions Associated with Government Activities	Onroad/Nonroad/ Area	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
30	Encourage Limitations on Vehicle Idling	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
31	Expansion of Area A boundaries	Onroad/Nonroad/ Area	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
32	Voluntary No-Drive Days	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
33	Analysis of Intersource Credit Trading and Banking Program	Onroad/Nonroad/ Area/Point	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
34	Expansion of Public Transportation Programs	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
35	Employer Rideshare Program Incentives	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
36	Preferential Parking for Carpools and Vanpools	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
37	Coordinate Traffic Signal Systems	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
38	Reduce Traffic Congestion at Major Intersections	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
39	Site-Specific Transportation Control Measures	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
40	Encouragement of Bicycle Travel	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
41	Development of Bicycle Travel Facilities	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
42	Alternative Work Schedules	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
43	Land Use/Development Alternatives	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
44	Encouragement of Pedestrian Travel	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
45	Restrictions on the Use of Gasoline-Powered Blowers for Landscaping Maintenance	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

Existing Control Measure		Source Category	Pollutant	Source
46	Alternative Fuels for Fleets	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
47	Areawide Public Awareness Programs	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
48	Encouragement of Vanpooling	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
49	Trip Reduction Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
50	Park and Ride Lots	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
51	Encouragement of Telecommuting, Teleworking and Teleconferencing	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
52	Promotion of High Occupancy Vehicle Lanes and By-Pass Ramps	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
53	MCAQD Rule 331 - Solvent Cleaning	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
54	MCAQD Rule 333 - Petroleum Solvent Dry Cleaning	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
55	MCAQD Rule 334 - Rubber Sports Ball Manufacturing	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
56	MCAQD Rule 335 - Architectural and Industrial Coating	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
57	MCAQD Rule 336 - Surface Coating Operations	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
58	MCAQD Rule 337 - Graphic Arts	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
59	MCAQD Rule 338 - Semiconductor Manufacturing	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
60	MCAQD Rule 339 - Vegetable Oil Extraction Process	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
61	MCAQD Rule 340 - Cutback and Emulsified Asphalt	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
62	MCAQD Rule 341 - Metal Casting	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
63	MCAQD Rule 342 - Coating Wood Furniture and Fixtures	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
64	MCAQD Rule 343 - Commercial Bread Bakeries	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
65	MCAQD Rule 344 - Windshield Washer Fluid	Point/Area	VOC	Final Serious Area Ozone SIP, Appendix A. (2000) EPA final approval June 2005, 70 FR 34362
66	MCAQD Rule 346 - Coating Wood Millwork	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
67	MCAQD Rule 347 - Ferrous Sand Casting	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
68	MCAQD Rule 348 - Aerospace Manufacturing and Rework Operations	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
69	MCAQD Rule 349 - Vitamin Manufacturing	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
70	MCAQD Rule 350 - Storage of Organic Liquids at Bulk Plants and Terminals	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
71	MCAQD Rule 351 - Loading of Organic Liquids	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
72	MCAQD Rule 352 - Gasoline Delivery Vessel Testing and Use	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
73	MCAQD Rule 353 - Transfer of Gasoline in Stationary Storage Dispensing Tanks	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
74	Clean Air Campaign	Onroad/Nonroad/ Point/Area	VOC, NOx, CO	Final Serious Area Ozone SIP, Appendix A. (2000) EPA final approval June 2005, 70 FR 34362
75	Allow Use of High Occupancy Vehicle Lanes and Freeway Ramps by Alternative Fueled Vehicles	Onroad	VOC, NOx, CO	Final Serious Area Ozone SIP, Appendix A. (2000) EPA final approval June 2005, 70 FR 34362
76	MCAQD Rule 358 - Polystyrene Foam Operations	Point/Area	VOC	MAG Eight-Hour Ozone Plan (2007) EPA final approval June 2012, 77 FR 35285
77	Federal Heavy Duty Diesel Vehicle Emissions Standards (Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, EPA final rule January 2001, 66 FR 5002)	Onroad	VOC, NOx, CO	MAG Eight-Hour Ozone Plan (2007) EPA final approval June 2012, 77 FR 35285

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
78	Federal Nonroad Equipment Emissions Standards (Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel, EPA final rule June 2004, 69 FR 38958 and Control of Emissions of Air Pollution From Nonroad Diesel Engines, EPA final rule October 1998, 63 FR 56968)	Nonroad	VOC, NOx, CO	MAG Eight-Hour Ozone Plan (2007) EPA final approval June 2012, 77 FR 35285
79	Ban on Open Burning	Area	VOC, NOx, CO	MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan (2009) EPA final approval September 2014, 79 FR 55645
80	National Autobody Refinishing Rule	Point/Area	VOC	15 Percent Rate of Progress FIP (1998) EPA final rule July 1999, 64 FR 36243
81	National Consumer Products Rule	Area	VOC	15 Percent Rate of Progress FIP (1998) EPA final rule July 1999, 64 FR 36243
82	Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements	Onroad	VOC, NOx, CO	EPA final rule February 2000, 65 FR 6698
83	Control of Hazardous Air Pollutants From Mobile Sources (Including VOCs from portable gas cans)	Onroad/Area	VOC	EPA final rule February 2007, 72 FR 8428
84	Control of Emissions of Air Pollution From Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder	Nonroad	VOC, NOx, CO	EPA final rule May 2008, 73 FR 25098

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
85	Control of Emissions From Nonroad Spark-Ignition Engines and Equipment	Nonroad	VOC, NOx, CO	EPA final rule October 2008, 73 FR 59034
86	MCAQD Rule 322 - Power Plant Operations	Point/Area	NOx	EPA final approval October 2009, 74 FR 52693
87	MCAQD Rule 323 - Fuel Burning Equipment from Industrial/Commercial/Institutional (ICI) Sources	Point/Area	NOx	EPA final approval October 2009, 74 FR 52693
88	MCAQD Rule 324 - Stationary Internal Combustion (IC) Engines	Point/Area	NOx	EPA final approval October 2009, 74 FR 52693
89	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	Point	VOC, NOx, CO co-benefit	EPA final rule March 2011, 76 FR 15608
90	Phase 1 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles	Onroad	VOC, NOx, CO co-benefit	EPA final rule September 2011, 76 FR 57106
91	Phase 1 and Phase 2 Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards	Onroad	VOC and NOx co-benefit	EPA final rules May 2010, 75 FR 25324 and October 2012, 77 FR 62624

Table 5-1

Existing Ozone Control Measures in the Maricopa Eight-Hour Ozone Nonattainment Area

	Existing Control Measure	Source Category	Pollutant	Source
92	National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines	Point/Area	VOC, NOx, CO co-benefit	EPA final rules January 2013, 78 FR 6674; August 2010, 75 FR 51570; March 2010, 75 FR 9648
93	Tier 3 Motor Vehicle Emission and Fuel Standards	Onroad	VOC, NOx, CO	EPA final rule April 2014, 79 FR 23414